BLM/ES/PT-03/000+1610

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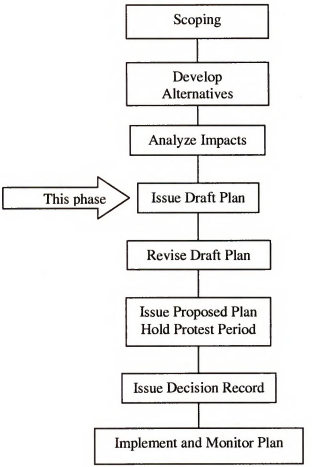
The Planning Process

This plan has been developed using the Federal planning process outlined in 43 Code of Federal Regulations (CFR) 1610 et seq. and 40 CFR 1500 et seq. These regulations follow the process set out in Sec. 202 of the Federal Land Policy and Management Act (FLPMA) of 1976, and Sec. 102 of the National Environmental Policy Act (NEPA) of 1969, respectively. Together, these mandates provide for informed decisions based on scientific analysis and substantial public involvement. At the conclusion of the planning process, participants have the opportunity to protest the plan to the Director of the BLM.

The plan makes decisions on Federal lands as well as provides direction for State-owned lands within the planning area. It does not affect private lands, nor does it change local zoning ordinances.



United States Department of the Interior
Bureau of Land Management
Milwaukee Field Office
P.O. Box 631
Milwaukee, WI 53201-0631

State of Maryland
Department of Natural Resources
Tawes State Office Building E-4
580 Taylor Avenue
Annapolis, MD 21401

1610
(ES-030)

August 4, 2003

Dear Reader:

We are pleased to present you with a copy of the Draft Lower Potomac River Coordinated Management Plan. This Plan reflects a first-of-a-kind partnership between the U.S. Bureau of Land Management, the Maryland Department of Natural Resources, Charles County, and The Conservation Fund, in cooperation with interested participants and local communities.

Located in southern Charles County, Maryland, the project involves a comprehensive planning and management effort for a defined study area and several public land units along the Potomac River. These prized lands are recognized for their significant natural and cultural resource and recreational values: Purse State Park, Maryland Point (former Naval Observatory), the Wilson Farm and Douglas Point.

Your comments are important to us. Public comment on the Draft Plan will run from August 3rd to September 4th, 2003. A public meeting on the Draft will be held at the College of Southern Maryland's Conference Center in La Plata on Wednesday, August 20th from 6:30 pm to 9:00 pm. with a presentation beginning at 7:00 pm. For directions to the conference center, go to: http://www.csmd.edu/location/smdmap.htm. Written comments on the Draft Plan should be sent to: Howard Levine, Bureau of Land Management, PO Box 631, Milwaukee, Wisconsin 53201-0631 and must be postmarked by no later than September 4th. For more information, please call MD DNR at (410) 260-8402 or BLM at (414) 297- 4463.

User's guide

This document is made up of five chapters and several appendices. **Chapter One (Purpose and Need)** is the introduction, which explains the goals and objectives for the plan. It also describes the planning criteria and issues to be addressed by the plan. **Chapter Two (Alternatives)** describes the preferred alternative and other alternatives to be analyzed in detail. It explains the "no action" alternative, which would be the continuation of current management for the Douglas Point tract only. **Chapter Three (Affected Environment)** describes the existing environment conditions found in the planning area, including the natural, historic resources and social-economic conditions of the region. Only those aspects of the environment that are affected by the plan's alternatives are described in the chapter. **Chapter Four (Environmental Impacts)** contains the analysis of the potential impacts that may occur under each alternative **Chapter Five (Consultation and Coordination)** describes the consultation and coordination efforts that went into making this plan unique in terms of the level of collaboration.

Also included are 14 appendices, reference citations and a glossary

Chapter One – Purpose and Need for Plan

Introduction

Situated only one hour from Washington D.C. on the tidal, lower Potomac River, the Nanjemoy Peninsula is one of the most ecologically and culturally significant landscapes remaining in the State of Maryland. Migratory waterfowl and wading birds find shelter and abound in over ten miles of undisturbed shoreline, and an extensive network of wetlands and forests also harbor some of Maryland's finest examples of rare and endangered plants and animals. Nanjemoy's outstanding natural attributes are equally matched by its archeological resources and history – early Native American sites in the region offer a rare insight into indigenous cultures well prior to European settlement, and dozens of sunken ships lie in Mallows Bay along the Potomac.

For several years, it was readily apparent that the region had a wealth of significant resources. A statewide "Green Infrastructure" assessment identified Douglas Point on the Nanjemoy Peninsula as a crucial ecological hub and a critical link in Maryland's greenway system. How could a plan of action preserve this valuable landscape, while contributing to the long-term economic needs of the local communities? How could the required financial and human resources be structured to implement this ambitious land conservation initiative? The answer: an innovative partnership involving the State of Maryland, Department of Natural Resources (DNR); U.S. Department of the Interior, Bureau of Land Management (BLM); Charles County; The Conservation Fund (TCF); and other non-profit land trusts. In December 2000, the partners signed an agreement that provided for a coordinated strategy for land acquisition, long-range planning, community involvement, and on-going stewardship (See Appendix 1.)

With TCF serving as lead negotiator, the State and the Federal governments secured funding to start the acquisition of the key properties from willing sellers along the Potomac shoreline. In 2001, Maryland launched the landmark GreenPrint Program, designed to save the most threatened ecological and irreplaceable natural resources in the State. The State committed $3 million specifically to help secure the first property at Douglas Point, owned by the Potomac Electric Power Company (PEPCO). The supportive actions of Maryland's Congressional Delegation yielded an additional $3 million in Federal funds through BLM to help with the first acquisition. GreenPrint funds also secured a second key tract to the north of Douglas Point, the Wilson Farm at Mallows Bay. Also during 2001, BLM acquired the former Maryland Point Naval Observatory on the southern end of Nanjemoy Peninsula, which had been declared excess property by the Navy. This tract is also included in the Lower Potomac River planning area (See Appendix 11).

What is the future vision for these public lands? Working with the local communities, other interested participants, and the Charles County Government, BLM and DNR embarked on a public planning process for this project. With BLM serving as project lead to fulfill its legal requirements, and DNR providing additional resource planning and technical support, the completed plan will identify recommendations for future public use, resource management, and recreational opportunities.

In cooperation with the local communities and the County, the outcome of the public planning process will establish a framework for the future management, operations, and stewardship of these public lands, as well as enlist the assistance of an already extensive and highly involved, community volunteer network. By working with the County and communities, the planned

integration of heritage tourism and recreational opportunities on these public lands will continue to help diversify the local economy.

Description of Planning Area

This coordinated management plan (CMP) focuses on two watersheds located in southern Charles County on the Nanjemoy peninsula (). Totaling approximately 53 square miles, the following third order watersheds have been identified by the U.S. Geological Survey and the DNR:

> Watershed #1 (DNR identifying code - 021401020789): Approximately 33 square miles, this watershed begins at Chicamuxen Creek and proceeds southward to its terminus at Smith Point. The watershed includes the Chicamuxen Creek, Reader Run, and Mallows Bay drainage systems.
>
> Watershed #2 (DNR identifying code – 021401010708): Approximately 20 square miles, the second watershed begins at Smith Point and for the purposes of this study, proceeds in a southerly direction and terminates at Riverside. The drainage includes Thorne Gut and the Mudds Marsh drainage systems.

In addition, as the map shows the planning area has been slightly modified to include all of the remaining acreage of the former-PEPCO tract based on comments received during the scoping phase. This change will allow BLM to acquire the tract if it should be offered for sale in the future by Maryland Rock, Inc.

Purpose and Need for Action

In December 2001, the Bureau of Land Management approved the Douglas Point Land Acquisition Planning Analysis (PA), authorized purchase of approximately 550 acres of land (BLM 2001). DNR acquired 700-acres with Program Open Space funds.

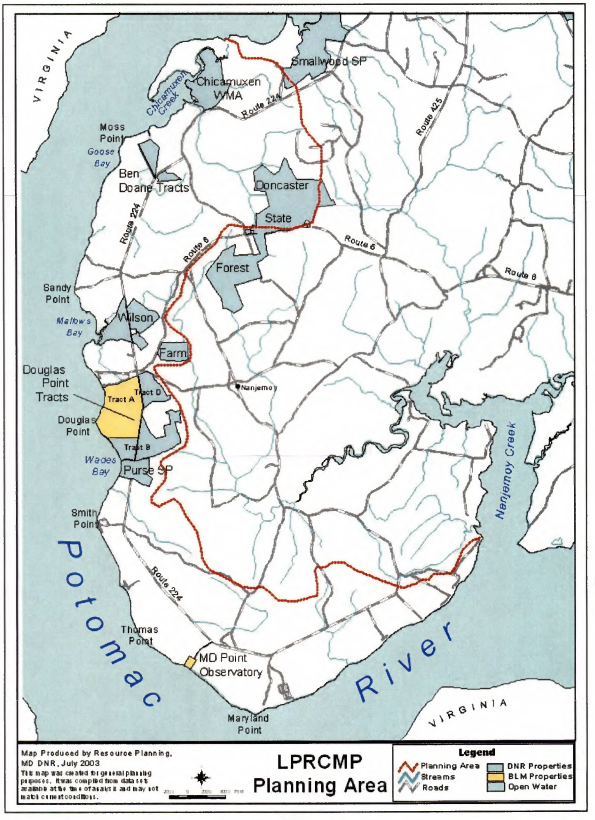
Because the Douglas Point PA provided only very general management guidance for the land, a comprehensive land use plan must be prepared to provide specific land use allocations and to make determinations required by BLM's planning regulations and handbook.

Vision and Concept for Plan

The CMP provides basic land management decisions for the Federal and State lands within the planning area. It is especially important for the BLM properties, which are not currently covered by a planning document.

The overall goal of the CMP is to provide a vision for conservation on Federal and State lands within the planning area. When it is approved, the plan will immediately authorize certain activities for the public's use and enjoyment of the area. Other activities will require additional site planning before they can be authorized.

Map 1. Planning Area



The complex process of building a shared vision began with the Community-Based Partnerships and Healthy Ecosystems workshop held in Waldorf, Maryland in April 2001. The formal scoping process, which concluded in May 2002, built upon community efforts to develop its long-term vision, and brought in other voices to discuss concerns and opportunities. From the scoping meetings and written comments, a set of issues were developed that linked similar opportunities into themes, such as recreational uses, cultural and historic resources, and sustainable economic development. Planning alternatives were developed from these themes, by emphasizing different management strategies and varying levels of activities and use.

The also plan establishes land uses for existing public land units (Douglas Point, Maryland Point Naval Observatory, Purse State Park, and Wilson Farm). Some of these properties such as the federally owned Douglas Point tract, were acquired under specific mandates, and therefore have restrictions on certain uses.

The rest of the planning area contains private land or lands owned by not-for-profit organizations. For this latter class of properties, the plan will not make any land use determinations. Instead, the plan will establish a screen for future proposed acquisitions based on the goals made in the plan.

While a definitive common vision was never articulated during the scoping process, and all stakeholders were not unanimous in their support for the details of proposals that follow, some fundamental points of ecosystem conservation and human use did evolve and suggest that overall management should:

- maintain the area's rural character;
- create opportunities for sustainable economic development;
- protect the region's cultural, historic and natural resources; and
- provide recreational opportunities for residents and visitors.

Overall Plan Goal

> It is the goal of the Lower Potomac River Coordinated Management Plan to provide opportunities for outdoor recreation, cultural and historic preservation and interpretation, and natural resource conservation and education that supports sustainable economic development while maintaining the region's rural character.

This statement guided the planning team's work as it developed the programmatic themes and plan alternatives. Planning themes contain more specific actions. The team identified four themes:

Planning Themes and Opportunities

Given the interconnectedness of the land to resources, it follows that the planning themes interrelate. That is, a valuable recreational experience generally requires some type of cultural or natural resource draw. Similarly, heritage tourists prefer to have nearby services, such as restaurants, gas stations, or shopping. Using these themes as a basis, the planning team developed a set of alternatives, which are found in Chapter 2.

Recreation
- Hunting
- Camping
- Trails
  - *Greenways*
  - *Blueways*
  - *Universal access*
- Water access
- Fishing

Cultural and historic preservation and interpretation
- Prehistoric Native American
- Early contact
- American Revolution
- War of 1812
- Mallows Bay "Ghost Ships"
- Maritime Heritage
- Scenic Byways

Natural resource protection and management
- Matrix blocks
- Special status species
- Open space preservation

Sustainable economic development
- Outfitters and guides
- Local services

Planning Alternatives

This process of developing goals, objectives, and themes produced a list of four alternatives (Chapter 2). Although the alternatives combine each of the planning themes, they differ based on levels of use intensity and other factors. That is, one alternative may encourage active recreational uses, while minimizing projects that would promote natural resource protection and enhancement projects. That is not to say that natural resource protection would be ignored, but rather it would not be the focus of management activities and budget strategies.

Legislative Constraints

The Douglas Point tract was acquired by the DNR with Program Open Space funds and by BLM with funds from the Land and Water Conservation Fund. Under the terms of the LWCF and Congressional language found in the two appropriation acts, some activities normally associated with public lands may not be allowed.

Planning Criteria

BLM's land use plans are made up of many decisions and determinations that are based on dozens of Federal laws, regulations and policies. These mandates, known as *planning criteria,* ensure that BLM addresses all applicable environmental, social and economic issues when it develops its plans. Identifying these criteria up-front in a planning process serves two purposes.

First, it provides public notification of the laws that BLM and its partners believe are germane to this plan. Second, it allows the public the opportunity to identify other criteria that may have been missed by the government.

These criteria only affect lands that are or may become managed by the BLM. It is BLM's intent to manage its lands cooperatively with the State of Maryland, which may also affect land management. In no instance, however, can the federal lands be used for purposes that conflict with the direction outlined in these planning criteria.

Overall Planning Criteria

- Proposed uses for BLM land at Douglas Point will be consistent with the intent of the Land and Water Conservation Fund (LWCF) Act, Congressional direction in the appropriation acts which authorized purchase of the tract and the LWCF funding requests submitted to and approved by the Department of the Interior. Future acquisitions may provide for different land uses and development opportunities.

- A primary goal of the plan will be to foster conservation of open space and protection of crucial wildlife habitat and cultural resources and to provide for low impact recreational opportunities. Only land uses that are found to be compatible with this goal will be considered in the plan.

- Development on the BLM portion of the Douglas Point tract will be limited to facilities that directly support the plan's goals. Examples of possible facilities include trails and trailheads, restrooms, primitive campgrounds and interpretive displays.

- The Maryland Point property, acquired by BLM from the Department of the Navy pursuant to the Federal Property and Administrative Services Act of 1949, as amended, may be considered for more intensive land uses and facilities development than other BLM properties acquired with LWCF funds.

- Public safety concerns at the Maryland Point property require that this property remain closed to the public until it has been determined to be safe for public use.

- The plan will be completed in compliance with the Federal Land Policy and Management Act (FLPMA) and all other applicable laws (see Appendix 10).

- To the greatest extent possible, the plan will meet each partner's land use planning and management needs.

- The plan will be prepared under the principles of community-based planning and management and will offer opportunities for meaningful public involvement.

- The plan will emphasize the natural, cultural and historical resources of the Nanjemoy Peninsula and lower Potomac River shoreline.

- The plan will identify specific opportunities and priorities for recreational use and education related to the BLM and DNR Douglas Point properties. (The Douglas Point properties will be managed as a single Federal-State land management unit.)

- The plan will identify criteria for possible future acquisitions within the planning area. Any acquisitions would be dependent on the availability of willing sellers and funding.

- Federal land disposals will not be considered as they are prohibited by the terms of the LWCF.

- Mineral leasing will not be considered as a viable use of the federal mineral estate below the BLM-owned tract at Douglas Point as this would be inconsistent with the mandate of the LWCF and Congressional intent in the appropriations acts.

- The plan will recognize the State's responsibility to manage wildlife, including hunting and fishing within all Federal and State-owned land units.

In addition to the above criteria, there are other specific procedural activities or performance levels contained in federal laws and executive orders that BLM must undertake or achieve prior to finalizing land use plan decisions. For a complete list of the relevant federal laws and executive orders, see Appendix 10.

BLM Strategic Plan

In the year 2000, BLM released its second strategic plan prepared under the Government Performance and Results Act of 1993 (GPRA). Organized around three goal categories that contain eight mission goals, the plan describes accomplishments expected under an assumed level-budget scenario between the years 2000 to 2005. All BLM land use plans must be consistent with the following goals outlined in the strategic plan:

> Sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations by:
>
> - Serving current and future publics;
> - Restoring and maintaining the health of the land;
> - Promoting collaborative land and resource management; and
> - Improving business practices and human resource management.

Scoping Goals

Additional goals specific to the Lower Potomac River Planning area as identified during the scoping process include the following:

- Identify allowable land uses for the Douglas Point tract for public enjoyment of the many conservation, recreation, and cultural resource values located on the Nanjemoy peninsula, while maintaining the ecological integrity of the region;
- Identify allowable land uses for the former Maryland Point Naval research site, which is under BLM's sole jurisdiction;
- Identify allowable uses for the Wilson Farm property and Purse State Park;
- Identify activities required for full implementation of the land use plan; and
- Identify other resource management needs.

The goals stated above are similar to the planning criteria, yet distinguished by the fact that they seek to identify all possibilities for use of the lands and resource management needs once the criteria have established the preliminary standards for any alternatives to be considered feasible.

State and Local Laws and Programs

BLM is required to be consistent with State and local laws and ordinances to the maximum extent possible. Consistency will be determined through on-going dialogue with State and local officials and by conducting a formal Governor's Consistency Review towards the conclusion of the planning process as required by the Federal Land Policy and Management Act. For a list of applicable State and local laws and programs, and program descriptions and various land unit designations, refer to Appendices 10 and 11.

Maryland's Public Lands

The mission of the Maryland Department of Natural Resources (DNR) is:

The Department of Natural Resources preserves, protects, enhances and restores Maryland's natural resources for the wise use and enjoyment of all citizens.

Each year, thousands of visitors enjoy DNR's public lands for a variety of outdoor (natural resource-based) recreational opportunities, including wildlife observation, boating, fishing, hiking, hunting, mountain biking and camping. The Department manages over 435,000 acres of public lands and protected open space in the State, and they represent some of the most significant ecological and cultural landscapes found in Maryland. This extensive public lands system reflects two major objectives of the Department: "A conserved and managed Statewide network of ecologically valuable private and public lands," and "Diverse outdoor recreation opportunities for Maryland citizens and visitors."

DNR's Land Unit Designations

The Department's land units are designated according to their significance, resource management practices and recreational focus, or by a special act enacted by the Maryland General Assembly. Land Unit Designations include State Parks, State Forests, Natural Resource Management Areas, Natural Environment Areas, Wildlife Management Areas, Fish Management Areas, State Wildlands, and newly acquired Undesignated Areas.

Issues to Be Addressed

A planning issue is a matter of wide public concern over resource management. The issues, developed during scoping and described in the Scoping Report, stress the ecological interrelationship between federal, State and non-governmental land management. The resulting main topics of the issues to be addressed throughout the course of the planning process are listed below:

Ecosystem Protection

- Cultural and Historic Resource Conservation, Protection and Interpretation
- Sustainable Economic Development
- Public Water Access and Recreation
- Land Access and Recreation
- Off-road Vehicles
- Maintenance and Administrative Access
- Special Designations
- Ecosystem Monitoring and Scientific Research
- Planning Area Boundary
- Management Budget and Funding

Chapter Two - Alternatives

Introduction

The regulations governing the National Environmental Policy Act (NEPA) call the alternatives the "heart" of an environmental analysis. The alternatives are described in comparative form to establish a clear basis among them.

Three alternatives have been developed as a result of public input (scoping) and other considerations. Each alternative seeks in some way to meet the goals and objectives for the entire plan, while featuring some differences in resource use and focus, as well as management strategies. Because the federal land at Douglas Point was acquired with Land and Water Conservation Funds, the range of uses for that tract is narrower when compared to some other BLM lands.

Alternatives

Table 1. Summary of Alternatives on page 2-10 describes in general terms the activities that would be allowed under each alternative. References to specific numbers or levels of use are for comparison purposes only. More specific analysis of some program activities would likely require the preparation of implementation plans and additional environmental assessments.

The table describes activities that are reasonably expected to occur based on site limitations and other factors, including the comments gathered through public scoping. Under BLM's planning system these analytical assumptions help us analyze the environmental, economic and social impacts of each alternative.

Actions Common to All Alternatives

Regardless of the alternative, the following activities share the following criteria:

1. The structures at Maryland Point will be removed subject to availability of funding. BLM may determine that some of the structures may be kept and/or moved to support on the ground activities.
2. Hunting and fishing will be regulated on Federal land by the State of Maryland. Maryland Point will remain closed to hunting until the structures are removed and the property is deemed safe for public access.
3. Collection of fossils on Federal and State lands shall only be allowed below the mean high water mark on the Potomac River, which only may include exposed fossils (e.g. sharks teeth) that are on the surface of the beach. All fossil collection activities elsewhere on Federal and State lands are prohibited. Scientific collection may be permitted based on site-specific analysis for qualified research or educational institutions.
4. No Federal land purchased with Land and Water Conservation Act funding will be made available for mineral leasing. In addition, no other Federal land will be considered for mineral leasing to be consistent with State law that restricts fluid mineral extraction within the Chesapeake Bay watershed.

5. The plan may determine if any or all the Federal properties will become Fee Demonstration Areas. State law will determine which if any fees can be imposed for use of its properties.
6. The plan will designate all Federal properties as Special Recreation Management Areas (SRMA).
7. Proposed uses will be evaluated for their potential to release hazardous materials into the environment. Use of hazardous materials/chemicals must comply with the Resource Conservation Recovery Act. Disposal of hazardous materials/chemicals is prohibited. The discovery of illegal dumping will be handled in accordance with the reporting, identification, and remediation requirements of the Comprehensive Environmental Response, Compensation and Liability Act.
8. All future management actions will include evaluation of environmental impacts within NEPA compliance process.
9. All future management actions will be conducted in manner, which conforms to the objectives of the Maryland Air Quality Implementation Plan.
10. All wildland and structural fires in the planning area will be suppressed in an aggressive and safe manner. Applicable fire management practices will emphasize fire prevention, hazardous fuel reduction, rapid response and use of appropriate suppression techniques.
11. Management actions will be conducted in a manner conforming to the water quality management objectives that have been developed by the State of Maryland.
12. Measures for minimizing soil erosion will be made on a site-specific basis through evaluation of management actions and implementation of best management practices.

In addition, the following section describes procedural determinations required by BLM planning guidance.

Air Quality
Prescribed burns, if any, must comply with the State Implementation Plan requirements from smoke (particulates). This procedure requires a burning permit from the State prior to conducting a prescribed burn.

Archaeology/Paleontology
Prior to authorizing any ground disturbing activities on Federal land, BLM will conduct an inventory under Section 106 of the National Historic Preservation Act of 1966, as amended.

Areas of Critical Environmental Concern (ACEC)
No BLM lands will be designated as an ACEC.

Land Acquisition
All land acquisitions, fee or less than fee, will be through exchange, purchase or donation. Acquisitions will be from willing sellers. The power of eminent domain will not be used to acquire Federal land. While the boundaries of the planning area encompass private lands, no particular tract is targeted for acquisition in the future. If only part of a property is identified for acquisition and the remainder would leave the owner with an uneconomic remnant, the BLM will acquire the entire property as required by the Uniform Relocation Assistance and Land Acquisitions Policies Act of 1970 (P.L. 91-646, 84 Stat. 1904 Sec. 301(9)). It may be in such cases that lands outside of the planning area could be acquired.

Land Use Authorizations
Rights-of-way, leases and permits will be issued on a case-by-case basis and in accordance with the decisions established in the coordinated management plan.

Livestock Grazing
Grazing will not be authorized on any BLM lands affected by the coordinated management plan.

Locatable Minerals
The State of Maryland is not subject to the Mining Law of 1872.

Mineral Leasing
No BLM lands will be open to fluid or solid mineral leasing. Mineral leasing is considered an incompatible use of the lands acquired because of the congressional mandate set forth in the appropriations act.

Recreation and Public Purposes Act (R&PP)
Under the R&PP Act, BLM has the authority to lease or patent public land to governmental or not-for-profit entities for public parks, building sites and other public purposes. R&PP leases and patents will be issued in accordance with the decisions set forth in the coordinated management plan and will be processed under the requirements of the National Environmental Policy Act of 1969.

Rights-of-way
One existing communications tower located in the southern portion of Parcel A on Douglas Point tract is currently leased to the State of Maryland for use by the Maryland Institute for Emergency Medical Services Systems and Charles County for transmission of emergency radio signals. BLM will honor these existing leases and issue a right-of-way (ROW) grant to the lessees when the plan is completed. If the lessees wish to consider subleasing space for commercial purposes on the existing tower, BLM would impose fees per its authorities and rent schedule. The remainder of Parcel A (BLM's tract) will be a ROW avoidance area.

The Maryland Point tract will be open to ROW applications, pending site-specific analysis and conformance with other plan goals for the tract.

The Chesapeake Bay Critical Area is an avoidance area for rights-of-way, except for the existing communications tower at Douglas Point.

Special Status Species
Prior to undertaking any implementation activities, all requirements of the Endangered Species Act of 1973, as amended, will be fulfilled.

Utility Corridors
Presently, the planning area has no designated utility corridors on the BLM-owned tracts at Douglas Point or Maryland Point. Because of the scattered nature of the BLM lands in the planning area no corridors will be designated beyond the power line to the communications site on Parcel A at Douglas Point.

Rights-of-way will be issued to promote the maximum utilization of any current utility lines and include joint use wherever possible.

Alternatives Considered but Eliminated from Consideration

No specific alternatives were eliminated from consideration. However, specific activities or specific locations for certain activities cannot be considered because of geographic limitations or legal restrictions. For example, motorized boat access at Maryland Point, Douglas Point and Purse State Park was examined, but not considered viable options because these locations are exposed to large fetches of the Potomac River, adjacent to steep bluffs and\or are forested. It would consequently be cost prohibitive to use any of these locations for motorized boat ramps, as well complying with the requirements of the Chesapeake Bay Critical Area Act.

Motorized vehicle use at the Douglas Point tract was determined to be incompatible under the terms of the Land and Water Conservation Fund Act.

Livestock grazing will not be considered for BLM land.

Linear rights-of-way corridors will not be considered for BLM land. The plan does analyze the impacts of the construction of emergency services communication towers.

Based on the planning criteria approved by the BLM State Director, no major facilities will be considered for the federal portion of the Douglas Point tract. The State of Maryland may consider locating facilities and other amenities on its portion of the tract focusing on the area east of State Highway 224 and on the two isolated tracts to the north.

Implementation and Monitoring

A key aspect of planning is the continual monitoring of implementation actions and analysis of environmental and other on-the-ground changes. This plan considers implementation of activities on several currently owned federal and State land management units (e.g., Douglas Point, Maryland Point and Purse State Park and Wilson Farm). It also considers future acquisitions and the potential activities associated with those properties. Therefore, implementation and monitoring will focus on both "real" and "hypothetical" actions and impacts.

Effect of the Plan Alternatives on State Lands

The BLM and Maryland DNR have developed the plan cooperatively. It is intended to provide management guidance on allowable uses for public lands within the planning area. However, given the plan has been developed under BLM's planning rules, it is not required to make the same determinations or fulfill any Federal planning and management actions on State owned lands. Therefore at the conclusion of the planning process, BLM will make decisions affecting its federally owned lands and DNR will make decisions on State owned lands based on agency mandates and policies.

With the exception of the Alternative 1, the alternatives have been designed to be distinct and flexible (See Table 1. Summary of Alternatives on page 2-10. The alternatives provide decisionmakers with a reasoned choice and the public a clear idea of what is being proposed. The alternatives, however, are not so prescriptive to preclude adjustments during implementation based on site–specific or changing on-the-ground conditions.

Alternative 1 or the "no action" alternative would be a continuation of current management. This alternative, required under the National Environmental Policy Act (NEPA), provides a baseline to which other alternatives can be compared. Essentially, it consists of currently authorized activities. The BLM portion of the Douglas Point tract would be open to casual use

only and the former-Maryland Point Naval Observatory would remain closed to the public (removal of the structures and other remediation can go forward without land use planning). No additional Federal land acquisitions would be authorized under this alternative.

State law will guide interim uses at Wilson Farm and its portion of Douglas Point until the plan is completed. Purse State Park will continue to be managed as it is currently.

Alternative 2 emphasizes the area's cultural and historic resources and includes low intensity recreational use of the public land. Limited construction of new facilities, small campgrounds and trails would be allowed. Federal land acquisitions would be allowed, but would focus on protecting cultural resources at risk. No motorized vehicles would be allowed on the Douglas Point tract.

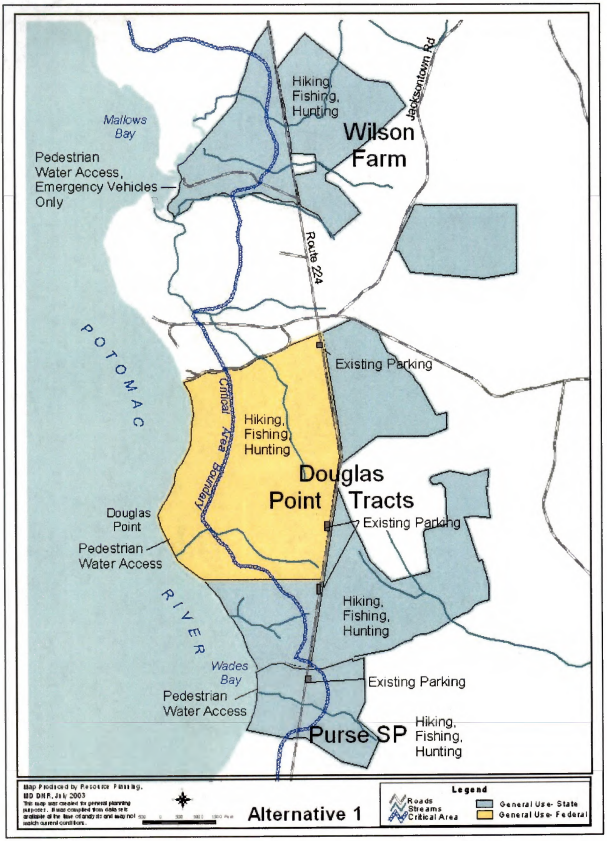
Alternative 3 considers a moderate level of recreation use. This alternative would allow the construction of boat ramps, interpretative signage and small- to moderate-sized campgrounds. Acquisition of new properties would be allowed based on the State's Green Infrastructure initiative, consistent with the Federal Land Policy and Management Act.

New facilities could include a visitor center to interpret the region's cultural and historical heritage, diversity and abundance of natural resource values and for other purposes. Construction of one or more parking lots would be considered; the exact location and size would be determined in future implementation planning. New trails could be built to connect public lands and consideration would be given to acquiring easements or purchasing land to construct the trails. Trails would be open to a variety of recreational pursuits, including hiking, mountain biking and horseback riding. No Federal or State lands would be opened to off-road vehicle use.

Alternative 4 evaluates the natural, heritage, and recreational opportunities recommendations from the "Nanjemoy Naturally" community vision plan. Potential activities would include the prohibition of siting facilities on the west side of MD State Route 224 on the Douglas Point tract. Trails and trail enhancements would be considered after the completion of site specific assessments. This would be necessary to avoid sensitive resources and implement appropriate mitigation when necessary. No motorized vehicles would be allowed on the Douglas Point tract. Future uses for the Maryland Point property would be considered in a site specific recreation implementation plan. Activities could include the construction of a campground and other visitor services and reforestation of much of the site.

The plan will make decisions affecting all State and Federal land within the planning area boundaries. That includes the State-owned Wilson Farm, part of the Douglas Point tract, and Purse State Park, and BLM's Douglas Point property and former-Maryland Point Naval Observatory. Because each tract was acquired under a different authority, permissible activities may vary. Also, geographic constraints may limit uses, such as the critical area, wetlands, shorelines and other sensitive lands.

The following maps provide general direction for the affected parcels by alternative.


Hiking,
Fishing,
Hunting
Wilson
Farm
Jacksontown Rd
Mallows
Bay
Pedestrian
Water Access,
Emergency Vehicles
Only
Route 224
POTOMAC
Critical Area Boundary
Existing Parking
Hiking,
Fishing,
Hunting
Douglas
Point Tracts
Existing Parking
Douglas
Point
Pedestrian
Water Access
RIVER
Hiking,
Fishing,
Hunting
Wades
Bay
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Pedestrian
Water Access
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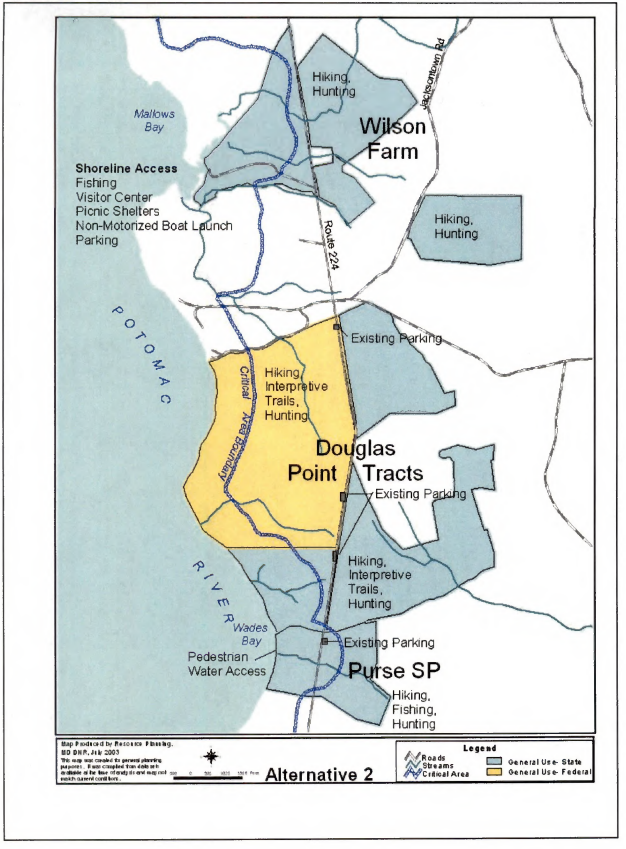
Streams
Critical Area
General Use- State
General Use- Federal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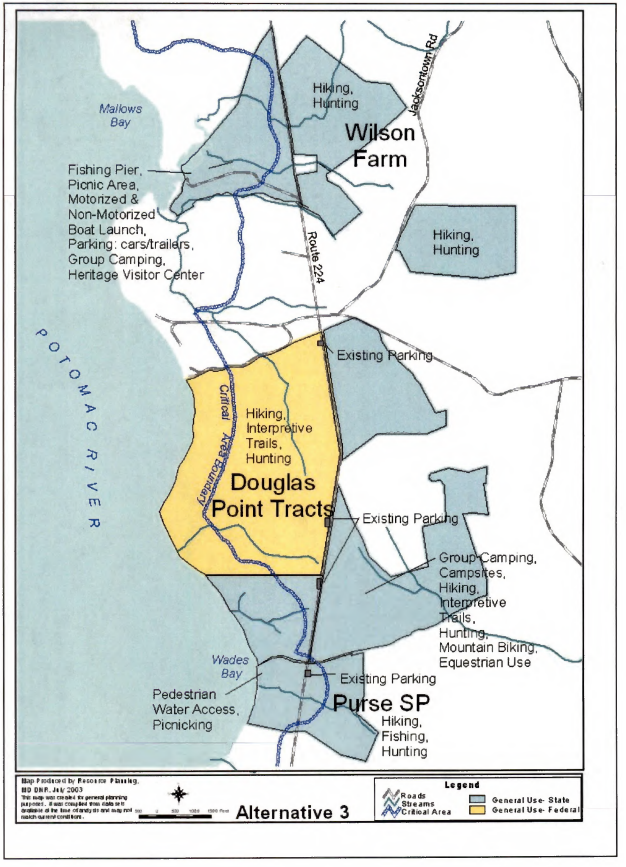
Hunting
Jacksontown Rd
Mallows
Bay
Wilson
Farm
Shoreline Access
Fishing
Visitor Center
Picnic Shelters
Non-Motorized Boat Launch
Parking
Route 224
Hiking,
Hunting
POTOMAC
Existing Parking
Hiking,
Interpretive
Trails,
Hunting
Critical Area Boundary
Douglas
Point
Tracts
Existing Parking
Hiking,
Interpretive
Trails,
Hunting
RIVER
Wades
Bay
Existing Parking
Pedestrian
Water Access
Purse SP
Hiking,
Fishing,
Hunting
Map Produced by Resource Planning,
MD DNR, July 2003
This map was created for general planning
purposes. Data compiled from state and
available at the time of map publication and
may not reflect current conditions.
Alternative 2
Legend
Roads
Streams
Critical Area
General Use- State
General Use- Federal


Mallows Bay
Fishing Pier, Picnic Area, Motorized & Non-Motorized Boat Launch, Parking: cars/trailers, Group Camping, Heritage Visitor Center
Hiking, Hunting
Wilson Farm
Jacksontown Rd
Route 224
Hiking, Hunting
Existing Parking
POTOMAC RIVER
Critical Area Boundary
Hiking, Interpretive Trails, Hunting
Douglas Point Tracts
Existing Parking
Group Camping, Campsites, Hiking, Interpretive Trails, Hunting, Mountain Biking, Equestrian Use
Wades Bay
Existing Parking
Pedestrian Water Access, Picnicking
Purse SP
Hiking, Fishing, Hunting
Map Produced by Resource Planning, MD DNR, July 2003
This map was created for general planning purposes. It was compiled from data and databases of the best originals and may not match current conditions.
Alternative 3
Legend
Roads
Streams
Critical Area
General Use- State
General Use- Federal

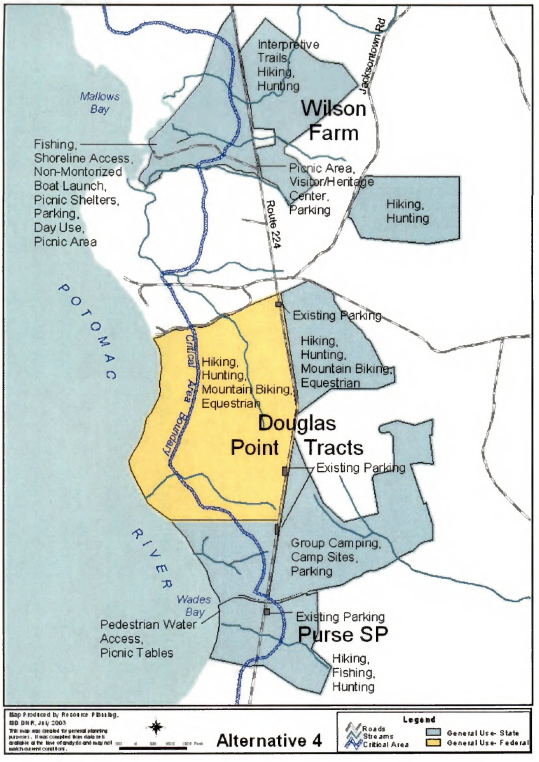

Interpretive Trails, Hiking, Hunting
Jacksontown Rd
Mallows Bay
Wilson Farm
Fishing, Shoreline Access, Non-Motorized Boat Launch, Picnic Shelters, Parking, Day Use, Picnic Area
Picnic Area, Visitor/Heritage Center, Parking
Route 224
Hiking, Hunting
POTOMAC
Existing Parking
Hiking, Hunting, Mountain Biking, Equestrian
Hiking, Hunting, Mountain Biking, Equestrian
Colonial Beach Highway
Douglas Point Tracts
Existing Parking
RIVER
Group Camping, Camp Sites, Parking
Wades Bay
Existing Parking
Pedestrian Water Access, Picnic Tables
Purse SP
Hiking, Fishing, Hunting
Alternative 4
Legend
Roads
Streams
Critical Area
General Use- State
General Use- Federal

Table 1. Summary of Alternatives

Program Area	Alt No.	Douglas Point (State/Federal)	Maryland Pt. (Federal)	Wilson Farm (State)	Purse State Park (State)
Facilities and Use Management					
Parking area/trailhead construction	1	BLM/State • No new parking sites at Douglas Point property • Existing Parking by gate off Rte 224 • No trailhead construction	• No developed parking • No trailhead construction	• No trailhead or parking construction • Parking by gate off Rte 224	• Parking would occur on existing lot off Rte. 224 . • Existing trailhead and main trail would be improved to reduce erosion problems
	2	BLM • Developed trailhead and small parking lot at each of three access points (gated) • Maintain and sign 2 existing trails State • Developed parking sites (e.g. gravel or paved, lots 10-15 cars ea.) and trailhead construction-parking access would focus on perimeter of property off Rte 224.	• Small parking lot (gravel or paved) • No trailhead construction; recreation non-structured and dispersed (e.g., picnicking, wildlife observation, beachcombing)	• Developed parking sites (e.g. gravel or paved 10-15 cars ea.) and trailhead construction.	• Minor improvements to existing parking site and improve trail and trail head to reduce erosion.
	3	BLM • Same as Alt. 2 State • Developed parking sites (Same as Alt. 2, except lots 10-40 cars ea. and trailhead construction parking sites would be situated within property to support other facilities or amenities.	• Large parking lot (gravel or paved) • Assess need for trailhead construction in connection with uses developed by implementation plan.	• Developed parking sites (Same as Alt. 2, except 10- 30 cars each).	• Same as Alt. 2: Minor improvements to existing parking site and improve trail and trail head to reduce erosion.

Program Area	Alt No.	Douglas Point (State/Federal)	Maryland Pt. (Federal)	Wilson Farm (State)	Purse State Park (State)
	4	BLM • Same as Alt. 2 State • Developed parking sites (Same as Alt 3, except lots 10-30 cars ea.)	• Medium parking lot (gravel or paved) • Assess need for trailhead construction in connection with uses developed by implementation plan.	• Developed parking sites (Same as Alt. 2)	• Same as Alt. 2: Minor improvements to existing parking site and improve trail and trail head to reduce erosion.
Signing	1	BLM/State • Allowed for boundary, safety and other resource protection purposes	• Allowed for boundary, regulatory and safety purposes.	• Allowed for safety and regulatory purposes	• Allowed for safety and regulatory purposes.
	2	BLM/State • Minimal level of directional and interpretative signs.	• Minimal level of directional and interpretative signs.	• Signing for safety and regulatory purposes.	• Signing for safety and regulatory purposes.
	3	• Higher level of directional and interpretative signs.	• Higher level of directional and interpretative signs.	• Same as Alt. 2	• Same as Alt. 2
	4	• Moderate level of directional and interpretative signs.	• Minimal level of directional and interpretative signs.	• Same as Alt. 2	• Same as Alt. 2
Interpretive sites	1	BLM/State • No interpretative facilities.	• No interpretative facilities.	• No interpretative facilities	• No interpretative facilities
	2	BLM • Provide minimal level of sites to interpret area's cultural and other resources. • No developed picnic areas. State • Interpretive trails-signs; kiosks; self-guided trails.	• Provide minimal level of sites to interpret area's cultural and other resources. • Developed picnic areas as needed.	• Combination admin. office/visitor contact building (e.g. 1500 sq. ft.); interpretive trails-signs; kiosks; self-guided trails.	• Interpretive trails-signs; kiosks; self-guided trails.

Program Area	Alt No.	Douglas Point (State/Federal)	Maryland Pt. (Federal)	Wilson Farm (State)	Purse State Park (State)
	3	BLM • Provide high level of sites to interpret area's cultural and other resources. • No developed picnic areas. State • Interpretive trails-signs; kiosks; self-guided trails; visitor and/or heritage interpretive center.	• Provide high level of sites to interpret area's cultural and other resources. • Developed picnic areas as needed.	• Visitor-Heritage Center and contact station (e.g. 5,000 sq. ft.); interpretive trails-signs; kiosks; self-guided trails.	• Interpretive trails-signs; kiosks; self-guided trails.
	4	BLM • Provide moderate level of sites to interpret area's cultural and other resources. • No developed picnic areas. State • Interpretive trails-signs; kiosks; self-guided trails.	• Provide moderate level of sites to interpret area's cultural and other resources • Developed picnic areas as needed.	• Same as Alt. 3: Visitor-Heritage Center and contact station (e.g. 5,000 sq. ft.); interpretive trails-signs; kiosks; self-guided trails.	• Interpretive trails-signs; kiosks; self-guided trails.
Day Use Facilities (picnic tables and/or group picnic shelters (e.g. 10-50 people per shelter))	1	• BLM/State: No facilities-informal use for picnicking etc.	• No facilities; closed to public use.	• No facilities-informal use for picnicking etc.	• No facilities-informal use for picnicking etc.
	2	• State: No facilities-informal use for picnicking only.	• Picnic tables	• Picnic tables only	• No facilities-informal use for picnicking etc.
	3	• State: Picnic tables and shelters e.g. 20-50 people ea.	• Small picnic area, tables, grills.	• Picnic tables, picnic shelters e.g. 20-50 people	• No facilities-informal use for picnicking etc.
	4	• State: Picnic tables and shelters e.g. 20-50 people. ea.	• Same as Alt. 3	• Picnic table, picnic shelters e.g. 20-50 people	• No facilities-informal use for picnicking etc.

Program Area	Alt No.	Douglas Point (State/Federal)	Maryland Pt. (Federal)	Wilson Farm (State)	Purse State Park (State)
Toilets	1	BLM/State • No	• No	• No	• No
	2	BLM • No State • No	• Provide adequate sanitation facilities (pit toilets)	• Pit only	• No
	3	BLM • Install pit toilets at one of the three trailhead/parking lot complexes. State • Clivus or Pit; may require water for picnic group shelters.	• Same as Alt. 2	• Yes (Clivus, pit and/or rest rooms with water)	• No
	4	BLM • Install pit toilets at one of the three trailhead/parking lot complexes. State • Same as Alt 3	• Same as Alt. 2	• Same as Alt. 3	• No
Camping	1	• Closed	• Closed	• No camping	• No camping
	2	State • No camping	• Possible site for small rustic campground.	• No camping	• No camping
	3	State • Yes (e.g. group camping, 10-30 people and/or 30+ individual sites.	• Possible site for moderate size developed campground.	• Yes (e.g. group and/or 30+ individual sites	• No camping
	4	State • Yes (e.g. group and/or 30 individual sites.	• Possible site for moderate size developed campground.	• Same as Alt. 3	• No camping

Program Area	Alt No.	Douglas Point (State/Federal)	Maryland Pt. (Federal)	Wilson Farm (State)	Purse State Park (State)
Off-road vehicles	1	BLM • Closed to all motorized vehicles, except govt. personnel on official business or communication site lessees to operate and maintain comm. site. State • Closed to all motorized vehicles.	• Closed to all motorized vehicles except government. personnel on official business.		
	2	BLM • Same as Alt 1 State • Closed to all motorized vehicles			
	3	BLM/State • Same as Alt. 1			
	4	BLM/State • Same as Alt. 1			
Competitive & special events	1	• Not allowed	• Not allowed	• No	• No
	2	BLM • Field trips of students, professional groups and organized special interest groups. State • Subject to DNR project review and consistency with the plan.	BLM • Field trips of students, professional groups and organized special interest groups.	• Yes. Subject to DNR project review and consistency with the plan.	• Yes. Subject to DNR project review and consistency with the plan.
	3	BLM/State • Same as Alt 2	• Allowed by permit, subj. to project review.	• Same as Alt 2	• Same as Alt 2
	4	BLM/State • Same as Alt 2	• Same as Alt. 3	• Same as Alt 2	• Same as Alt 2

Program Area	Alt No.	Douglas Point (State/Federal)	Maryland Pt. (Federal)	Wilson Farm (State)	Purse State Park (State)
Filming	1	BLM/State • No commercial film permits	• No commercial film permits	• No commercial film permits	• Permits subject to DNR Project Review
	2	BLM/State • Permit minimal impact activities subject to project review.	• Permit minimal impact activities subject to project review.	• Permit minimal impact activities subject to project review.	• Permit minimal impact activities subject to project review.
	3	• Same as Alt. 2	• Same as Alt. 2	• Same as Alt. 2	• Same as Alt. 2
	4	• Same as Alt. 2	• Same as Alt. 2	• Same as Alt. 2	• Same as Alt. 2
Transportation and Access					
General Public Access	1	• Open to casual use	• Closed	• Open to casual use	• Open to hiking, wildlife observation, fishing and hunting by permit.
	2	BLM • Open to biking-existing trails. • Open to equestrian use-existing trails. • Open to hiking wildlife observation, fishing, beachcombing-not limited to existing trails. • Equestrian use on existing trails. State. • Open to hiking, wildlife observation, and hunting by permit.	• Open to camping, hiking and biking on trails.	• Open to hiking, wildlife observation, fishing and hunting by permit.	• Open to hiking, wildlife observation, fishing and hunting by permit.
	3	BLM • Same as Alt. 2 State • Same as Alt. 2, except also allows mountain biking.	• Open to camping, hiking and biking on trails. • Widen access road.	• Open to hiking, wildlife observation, fishing and hunting by permit.	• Open to hiking, wildlife observation, fishing and hunting by permit.

Program Area	Alt No.	Douglas Point (State/Federal)	Maryland Pt. (Federal)	Wilson Farm (State)	Purse State Park (State)
	4	BLM • Same as Alt. 2 State • Same as Alt 3	• Same as Alt. 3	• Open to hiking, wildlife observation, fishing and hunting by permit.	• Open to hiking, wildlife observation, fishing and hunting by permit.
Trail construction	1	• No new trails	• No	• Existing road/rail system only	• Existing trail system only
	2	BLM/State • Develop primitive trail system focused on cultural and historic site interpretation (subj. to further planning).	• Develop trail system (subject to further planning).	• Signed primitive trail system.	• Signed primitive trail system.
	3	BLM/State • Same as Alt. 2	• Same as Alt. 2	• Signed primitive and improved (e.g. ADA) trail system	• Same as Alt 2
	4	BLM/State • Maintain and sign existing trails (N-S trail and E-W trail), assess possibility of developing new trails to connect BLM land with trails on State land.	• Same as Alt. 2	• Same as Alt 3	• Same as Alt 2
Motorized Boat Ramps	1	BLM/State	• No	• No	• No
	2	• No		• Yes, subj. to project review	
	3				
	4				
Non-motorized boat put-in	1	BLM/State • No	• No	• No	• No
	2	BLM • Yes State • NA	• Construct boat put-in	• Yes	
	3	BLM/State	• Same as Alt. 2		
	4	• Yes State • Yes			

Program Area	Alt No.	Douglas Point (State/Federal)	Maryland Pt. (Federal)	Wilson Farm (State)	Purse State Park (State)
Minerals					
Leasing	1	• Closed			
	2				
	3				
	4				
Forestry/Fire Management/Invasive Weeds					
Timber sales	1	BLM/State • No commercial harvesting	• No commercial harvesting	• No commercial harvesting	• No commercial harvesting
	2	BLM/State • Same as Alt. 1	• Same as Alt. 1		
	3	BLM • No State • Selective commercial through state approved management plan			
	4	BLM/State • No			
Invasive Weeds	1	BLM/State • No herbicidal removal	• No herbicidal removal	• Removal by permit only	• Removal by permit only
	2	BLM/State • Removal in coordination w/ DNR (including use of herbicide)	• Yes, subject to environmental assessment		
	3		• Same as Alt. 2		
	4		• Same as Alt. 2		
Vegetation manipulation	1	BLM/State • No fire treatment	• No fire treatment	• Per-fire mgmt. plan	• Per-fire mgmt. plan
	2	BLM/State • Per -fire mgmt. plan	• Per fire mgmt plan		
	3				
	4				

Program Area	Alt No.	Douglas Point (State/Federal)	Maryland Pt. (Federal)	Wilson Farm (State)	Purse State Park (State)
Realty					
Land acquisitions (See narrative)	1	BLM • No additional fee acquisitions • Possible acquisition of other Federal land by transfer			
	2	BLM • Focus on heritage resources at risk			
	3	BLM • Acquisition of parcels within planning area to meet recreation or conservation goals through fee acquisition or easements.			
	4	BLM • Same as Alt. 3			
Land exchanges	1 2 3 4	BLM/State • No			
Rights-of-Way (Communication sites, easements)	1	BLM • One existing comm. site at (grandfathered) • No new sites State •	• No comm. sites	• Easements/ROWs submitted to DNR project review for consistency-conflicts with the plan. • Right of Entry for NVFD.	• Easements/ROWs submitted to DNR project review for consistency-conflicts with the plan.
	2 3 4	BLM • No additional surface disturbance, possible right-of-way grants on existing tower.	• Allow comm. sites, buried and aerial lines. • Where no reasonable alt. Exists. • Facilities must blend with landscape.	• Easements/ROWs submitted to DNR project review for consistency-conflicts with the plan.	• Easements/ROWs considered by Project Review for consistency –conflicts with plan.
R+PP sales/leases	1	• No	• No	•	•
	2		• Subject to project review and plan conformance	•	•
	3		• Same as Alt. 2	•	•
	4		• Same as Alt. 2	•	•
Commercial permits/ leases (e.g., concessions, outfitters)	1	BLM • No State • OK if consistent with plan.	• No	• -No	• -No

Program Area	Alt No.	Douglas Point (State/Federal)	Maryland Pt. (Federal)	Wilson Farm (State)	Purse State Park (State)
	2	BLM/State • OK if consistent with plan.	• Yes	• OK if consistent with plan.	• OK if consistent with plan.
	3	• Same as Alt. 2			
	4				
Land withdrawals	1	• No			
	2				
	3				
	4				
Recreation Management					
Special Use Permits e.g. research, public-private events	1	• No	• No	• No	• Yes-Through DNR project review only: e.g. research, local programs.
	2	BLM/State • Subject to review and consistency with plan.	• Subject to review and consistency with plan.	• Yes if consistent with plan.	• Yes if consistent with plan .
	3				
	4				
Hunting	1	BLM/State • Open to hunting, subject to State regulation.	• Closed to hunting	• Open to hunting	• Open to hunting
	2	• Same as Alt. 1	• Open to hunting subject to State regulation.		
	3				
	4				
Other Program Activities/Designations					
ACECs (BLM land only)	1	• No		• NA	• NA
	2				
	3				
	4				
Recreation Opportunity Spectrum Category	1	• Not designated	• Not designated	• N/A	• N/A
	2	• Semi-primitive non-motorized.	• Semi-primitive non-motorized.		
	3				
	4				
Special Management Area	1	• Not designated	• Not designated	• N/A	• N/A
	2	• Spec. recreation mgmt area (SRMA).	• SRMA		
	3				
	4				

Program Area	Alt No.	Douglas Point (State/Federal)	Maryland Pt. (Federal)	Wilson Farm (State)	Purse State Park (State)
Air Quality	1 2 3 4	• Prevention of Significant Deterioration Class 1.			
Livestock Grazing	1 2 3 4	• No			
Endangered Species	1 2 3 4	BLM/DNR • Maintain/protect bald eagle nest sites and territories. • Conduct inventories for special status species (priority spp.-sensitive joint-vetch, dwarf wedge mussel).	• Conduct inventories for special status species (priority spp.-sensitive joint-vetch, dwarf wedge mussel).		
Visual Resource Management class	1 2 3 4	• Class II	• Class II • Class III • Class IV • Class IV	• N/A	• N/A

Chapter Three – Affected Environment

Introduction

A discussion of the planning area's resources provides a context for the evaluation of proposed uses and alternatives. The information for this chapter was gathered from a variety of sources, and has been cited in the text as appropriate. For additional resource information, refer to the source documents cited in the text or the appendices as appropriate.

Land Ownership

The planning area covers over fifty square miles (32,000 acres), and most of the land is privately owned and not affected by the plan. The State of Maryland owns approximately 14,000 acres, comprised of 15 park, forest and wildlife management area units, including the nearby Doncaster State Forest and Purse State Park. (See Recreation on page 19 for a listing of these units). The State also owns 715 acres of the former PEPCO property and 509 acres of recently acquired Wilson Farm. The BLM holds title to 548 acres at Douglas Point and 24 acres at the former Maryland Point Naval Observatory. (See Map 1 in Chapter 1). Douglas Point is the only property managed cooperatively by the state and federal government as a wildlife management area. Table 2. Federal and State Owned Lands within Planning Area on page 3-2 lists the State and federal land units and acreages within the planning area.

Local Zoning

The county's Land Use Concept Plan has designated the Nanjemoy Peninsula as an Agricultural Conservation District. The purpose of this district is to preserve the agricultural industry, prevent scattered uncontrolled development, and retain the area's rural character.

The county has projected Nanjemoy be a slow growth area due to two factors: it is relatively remote from the designated growth areas such as Waldorf and La Plata, and it is not a targeted growth area. The small Nanjemoy community itself, located on MD Route 6, is a designated Village Center. Village Centers are designated to "preserve and enhance their present characters to serve their traditional roles in county life" (Charles County Comprehensive Plan, 1997 Revised)

Table 2. Federal and State Owned Lands within Planning Area

Federal and State Owned Tracts At Douglas Point	
Maryland DNR	
North Tracts 1 & 2	143.70 acres
Parcel B	294.886 acres
Parcel D	159.748 acres
Parcel E	116.855 acres
Total	715.189
BLM	
Parcel A	548 acres
Total	548 acres
Excluding Rights-of-Way	
Maryland DNR	
Tract 1A	Perpetual right of ingress and egress along and across Tract 1A, existing gravel road.
Tract 2	Perpetual right of ingress and egress over, through and across the adjoining property of the Grantee, using existing, future or prior agreed to roadways to access the Grantor's adjacent property.
BLM	
Parcel A	Existing leases for meteorological tower with County Commissioners of Charles County and the State of Maryland for the use of the Maryland Institute For Emergency Medical Services Systems. The leases contain approximately four acres, surrounding the tower and with access by existing dirt road off State Highway 224.
Other Federal and State Properties in Planning Area	
BLM	
Maryland Point Naval Observatory	24.3 acres (ROW: 60 foot access and utility right-of-way from State Highway 224 into Parcel 1 (3.7 acres)).
Maryland DNR	
Wilson Farm	509acres
Purse State Park	149 acres

Geophysical Resources

Climate

Climate can influence the types of proposed activities and facilities that are under consideration. Southern Maryland enjoys warm, humid summers and cool winters. High and low average temperatures vary between 81°F and 25°F. Precipitation averages 40 inches per year. Occasional extra-tropical storms also affect the area (Charles County 1980). Prevailing wind directions vary by season. Winter winds generally come from the north to northwest and summer winds prevail from the south to southwest. The frost-free season lasts about 180 days.

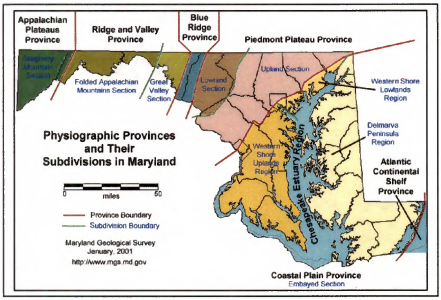
Air Quality

The selected alternative must not, by State and Federal law, cause significant increases in emissions that contribute to the existing poor air quality conditions in areas that currently do not meet federal and State air quality standards.

Maryland's air quality complies with all National Ambient Air Quality Standards except the one-hour ozone standard. Charles County and four other counties in Maryland are included in the regional Washington, D.C.-Maryland-Virginia "serious ozone non-attainment area". Although Charles County is included in this designated non-compliant area, Charles County and in particular the Nanjemoy area, have better air quality than the rest of the Washington Metro area.

Geology

The geology of an area may influence the types of uses and development to be considered. The planning area lies in the Atlantic Coastal Plain, a physiographic province located in the Western Shore Uplands Region (See Map 2. Physiographic Provinces of Maryland). Elevations rise from sea level to about 300 feet in a series of terraced surfaces (J.P. Reger and E.T. Cleaves, Maryland Geological Survey, written commun., 1998). Frequently, the first terrace is visible in the form of 30 to 60 foot bluffs rising from the water and adjacent low areas along the Potomac River shoreline. The land is formed from sediments consisting of unconsolidated sands, gravels, silts, and clays deposited over basement metamorphic rock similar to that found in the Piedmont Province to the west. In southwestern Charles County, the Coastal Plain sediments range from about 600 to 1,000 feet in depth. These Coastal Plain sediments dip gently and thicken in an east-southeastward direction.



Map 2. Physiographic Provinces of Maryland

Four formations comprise the majority of notable geology on the public lands portions of the planning area. These formations are: the Chicamuxen Church Formation, Holocene Deposits (Undivided), the Aquia Formation, and the Maryland Point Formation. Further description of these formations and their relationship with the publicly-owned parcels is presented in Appendix 12. Erosion of the cliffs along the Potomac and the tributary stream valleys is actively occurring. Frequent slumping of the unconsolidated materials can be observed.

Below these formations and above the bedrock is the Patuxent Group comprised of the Patuxent - Arundel Formations (undifferentiated) and the Patapsco Formations. These layers are comprised of sands and clay layers from which much of the well water for the area is drawn.

Mineral Resources

Sand and gravel are found in the planning area. These resources are used as aggregate by the construction industry, and sand and gravel quarries are common in western Charles County. Most of these quarries, however, occur further north and east of the planning area. Exploitable sand and gravel deposits are potentially present in the Chicamuxen Church Formation, and less so from the Maryland Point Formation. Historically, there have been some sand and gravel quarries and borrow pits in these units. There is no evidence of economic deposits of other minerals, or fossil fuels in this part of southwestern Charles County.

ap 3. Top ogra phy of Douglas Point and Vicinity

Topography

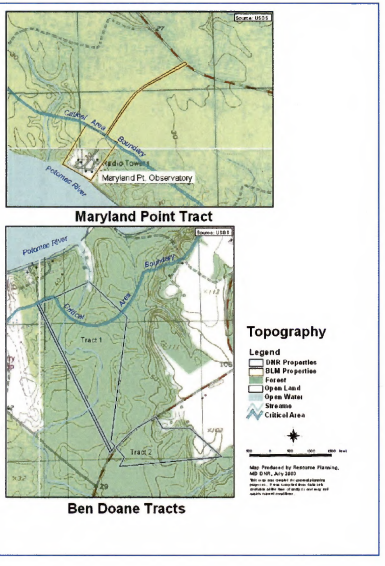
The planning area's topography is one of the most significant factors that influence the location of proposed activities and development. (See Map 3. Topography of Douglas Point and Vicinity and Map 4. Topography of Ben Doane and Maryland Point Properties.)

Wilson Farm

The focal point of this property is an inlet, feeding Mallows Bay and the Potomac River. The inlet is partially surrounded by wetlands. Elsewhere, 10- to 30-foot bluffs comprise most of the shoreline. Northeast of the Mallows Bay drainage area, steep ravines carry two streams flowing east to west under MD Route 224. The southern section of the property consists of fairly level land previously used for agriculture, and some drainage areas. A beaver pond lies on the southern boundary line. East of MD Route 224, the property has a general slope eastward and has similar ravine relief.

There is a section of the Wilson Farm property that is located on the east side of Jacksontown Road, near but isolated from the parcel described above. This parcel is wooded and fairly flat and gently sloping toward the west.

Map 4. Topography of Ben Doane and Maryland Point Properties



Douglas Point

Douglas Point is divided from north to south by MD Route 224 which travels along the property's drainage divide. Over half of the property is located between the shoreline and the west edge of the road. This side of the property is comprised to two relatively level terraces that run parallel to the shoreline. The lower terrace slopes towards the Potomac River to bluffs rising 20 to 30-feet above the river. These bluffs are typical of approximately 80 percent of the Douglas Point shoreline, and they are eroding at a moderate to high rate due to exposure to waves. Other areas along the shoreline are relatively level and low-lying where the bluffs are absent. This allows for limited access to the water with exception of an existing trail leading to the river. Two major drainage ravines and one smaller one are distinct in the lower terrace, and they flow

into wetlands connected to the Potomac. (See Map 8. Water Resources (Wetlands) in Douglas Point Area.)

In contrast, to the east of MD Route 224 is level terrain previously used for agricultural uses. Slopes on this tract are nominal. One basin in the southern portion of the tracts drains into the Nanjemoy watershed.

Purse State Park

MD Route 224 bisects this property from north to south. The western portion is fairly level, only sloping gently towards the shoreline. The shoreline is lined with steep bluffs 10 to 20 feet high except where wetlands form at the end of streams. An existing roadway leads to a very steep descent to the narrow beach. Steep slopes surrounding the main drainage area, which leads to the Potomac River, provide the most significant relief. To the east of MD Route 224, the topography is fairly level, except where intermittent stream valleys create localized steep relief.

Maryland Point Naval Observatory

The site has mostly flat or level open fields. The exception is the shoreline which has vertical bluffs along the shoreline of the Potomac River that are over 30 feet high.

Remainder of Planning Area

The southern portion is mostly level with one major drainage area into the Potomac River just north of Thomas Point.

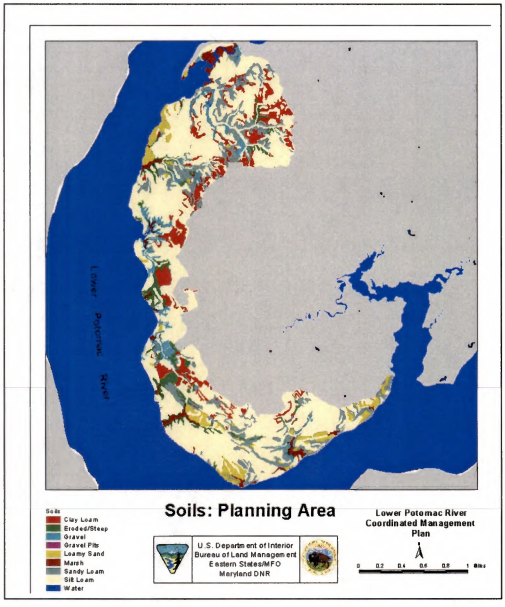
Soils

The soils present on the Douglas Point, Wilson Farm, Purse State Park, and Naval Observatory tracts and the remainder of the planning area do not vary greatly by soil association or type. See) Soil types are basically sand, silt or clay and combinations thereof. The soil type affects drainage, vegetation, and stability. Problem soils usually are wet or highly erodible. Soil type can affect the location of trails, trail maintenance, and building and road sites.

The Exum series soils are one of the main types of soils found in the planning area. These soils are moderately well drained and only moderately sloping. They are silt deposits with some sand and clay. They tend to be deep and support native vegetation such as mixed hardwoods and pines. These soils do not tend to pose much limitation regarding development or use.

Keyport Silt Loam is a common soil that is also found in the planning area. This silty soil tends to be found near rivers where they are relatively level. There are often poor drainage issues associated with them. Further description of the soils located on the publicly-owned parcels is presented in Appendix 6.

Map 5. Soils – Planning Area



The soil maps provided (See Map 5. Soils – Planning Area and Map 6. Soils Studies – Douglas Point are based on both slope analysis (topography) and the severity of certain erodible soil types. The map has three criteria: "Slight Constraints" – areas on the property with slight limitations occur on gentle slopes with minimal to moderate soil erosion problems. These soils rarely if ever became saturated for long periods of time and have the lowest potential to cause adverse environmental impacts through use or site improvements. "Moderate Constraints" – occurs on grades ranging from 5-15 percent and has the potential to create environmental impacts, particularly if the problem is not rectified through proper design and engineering. "Severe Constraints" – occurs on slopes in excess of 15 percent with soils that have moderate to severe erodibility, or they are situated on perennially or permanently saturated soils. Improvements and uses in these areas are severely limited, though not always infeasible.

Water Resources

Aquifers

Aquifers are saturated water-bearing rocks or sediments that can be tapped by wells to provide water. Aquifers provide ground water for human consumption, as well as for livestock, agricultural, commercial and industrial purposes.

There are two types of aquifers in the planning area: water-table aquifers and deeper confined aquifers. Water-table aquifers occur near the surface of the land. The water-table aquifers in southern Maryland, found in the geologic formations mentioned previously, is generally not used for water-supply purposes, although historically, it has been used for small domestic and livestock supply.

The second type are confined aquifers that occur at depth between have clay layers which limit the water's flow up or down. They are also known as "pressure" or "artesian" aquifers. Confined aquifers within the Potomac Group are the primary sources of ground-water supply in southwestern Charles County. Yields of wells screened in sands of the Potomac Group in Charles County range from less than 100 gpm (gallons per minute) to more than 500 gpm. While these formations are found in the planning area, any assessment of the productivity of these aquifers at specific properties within the planning area would require data from site-specific test wells.

The basement rocks (metamorphic rocks) that underlie the Potomac Group sediments in southwestern Charles County do not produce water in useable quantities and are not potential aquifers.

Groundwater Resources

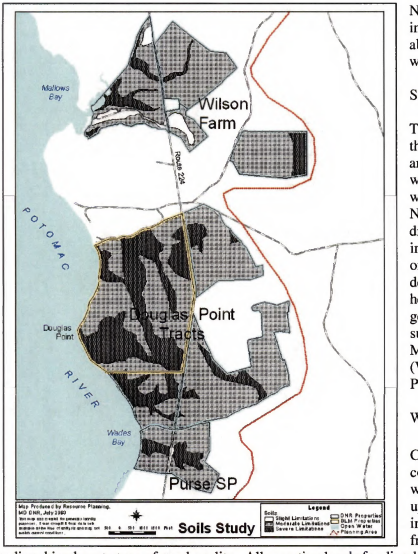
An old well or wells are likely to exist on the Wilson Farm property from former land uses, but their existence, location and condition are not known at this time.

Monitoring Wells

Four groundwater-monitoring wells are located west of MD Route 224 on the BLM-owned portion of the Douglas Point tract. These wells were drilled by PEPCO in 1974 and 1975 for the purpose of locating deep-water aquifers on-site. These wells represent three major confined aquifers encountered at the site. Nine additional wells or pipes were identified on the Douglas Point property during the on-site inspection.

No other information is available about the Maryland Point septic tank's function and general condition, other than its 500-gallon capacity. No wells are known to exist on the Purse State Park property.

Map 6. Soils Studies – Douglas Point



No water quality information is available about the drinking water well at Maryland Point.

Surface Water

The primary drainage areas throughout the planning area are the Potomac River watershed draining westward and the Nanjemoy watershed draining eastward. The individual streams located on each parcel are described under the parcel headings throughout the geophysical resource summaries above. (See Map 8. Water Resources (Wetlands) in Douglas Point Area on page 11).

Water Quality

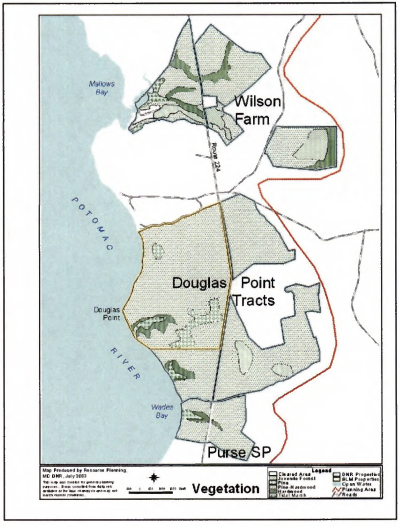
Chemical analyses conducted on water from wells in the lower and upper Patuxent aquifers indicate that the water from both aquifers is a sodium bicarbonate type of good quality. All reporting levels for dissolved constituents are within the recommended limits set by the U S. Environmental Protection Agency (USEPA).

Biological Resources – Plants

Vegetation

Vegetation within the planning area reflects the region's unique location between the northern limit of several southern species and southern limit of northern species (Charles County 1980). Most of the landscape, however, has been altered by human activity. Nevertheless, climate, soil and other environmental conditions have created six major vegetative communities, include the upland communities of mixed hardwood, pine forest, open fields, and the wetlands communities: forested wetlands, palustrine scrub/shrub wetlands, and freshwater wetlands (Map 7). Although some forest stands may contain trees over 100 years in age (MD DNR 2002), the stands are all secondary growth (Charles County 1980). Past agricultural practices in the area were a primary cause of land clearing (Charles County 1980).

Map 7. Vegetation on Douglas Point and Vicinity



Appendix 7 lists the common and scientific names for species common to each of these plant communities.

The planning area contains remarkably large blocks of relatively unbroken forest that extends eastward into the watershed of Nanjemoy Creek. In addition to providing habitat for rare species, this extensive forest cover: 1) provides habitat for even the most wide-ranging and area-sensitive wildlife, and 2) provides ecosystem integrity and habitat stability even in the face of disturbance, such as fire, tornados, etc. The Nature Conservancy and the Natural Heritage Program recognize this block of forest as one of just thirteen sites on the Coastal Plain of Maryland that is large enough to meet these

two criteria. It is more than twice the size of the other sites identified in southern Maryland. The most mature sections of forest show little evidence of encroachment by invasive species or other signs of artificial disturbance. Forest stands of similar age and quality are rare in southern Maryland. While these other stands are generally palustrine scrub/shrub wetlands, on the Douglas Point tract they are also present as upland communities which is unusual considering the agricultural history of the area. While further data collection would be necessary to characterize and rank the forest communities on site, it is clear that high quality communities are present.

Map 8. Water Resources (Wetlands) in Douglas Point Area

Upland Communities

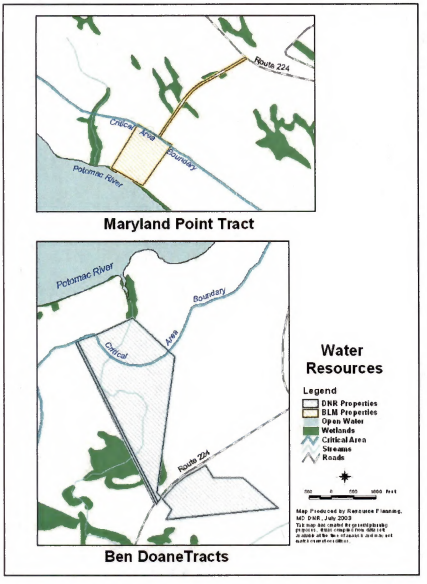
Except in those areas that have been cleared or previously disturbed by natural or human forces, the area is dominated by mixed hardwood forests, a forest type that is indicative of western Charles County and the soils that are present.

Wetland Communities

Wetlands are areas where water is the primary factor controlling the environment and associated plant and animal life. These areas are transitional communities between aquatic and upland communities, with a water table at or near the surface of the land. Plants that are capable of growing in water or very wet soils usually dominate wetlands. Soil characteristics of wetlands are different from those of dry, upland sites.

Wetlands play a crucial role in enhancing water quality, providing a water supply, and serving as a natural means of flood and erosion control. Wetlands are also among the most productive and important biotic communities, as they serve as essential breeding areas, and display a great diversity of plant and animal life. Many species of wildlife spend all or certain seasons of the year in wetland habitats for breeding, brood rearing, and feeding or protective cover. Some fish species use wetlands for egg laying, feeding, and protection. Wetlands function as sanctuaries for rare, threatened and endangered species.

Map 9. Water Resources (Wetlands) on Ben Doane and Maryland Point Tracts



Map 8. Water Resources (Wetlands) in Douglas Point Area shows the distribution of wetlands throughout the planning area and shows the distribution of wetlands throughout the Douglas Point tract. Appendix 7 contains a more detailed description of the wetlands associated with the Douglas Point properties and the planning area.

Forestry

A forest management plan (FMP) for the PEPCO tract, which covered two parcels totaling 1386.1 acres, was prepared by the Maryland Forest Service in 1986. The FMP determined that the Douglas Point property has merchantable timber on the property. It divided the property into individual management units, called stands, which are delineated based on vegetative composition, structural diversity and environmental factors. (A summary of the forest stand study at Douglas Point is located in Appendix 7.)

Invasive Plant Species

Invasive plants are those that have become established in habitats where they have no natural biological control of their reproduction and spread. Invasive plants have the ability to rapidly invade new areas and out-compete the indigenous (native) vegetation for light, water and nutrients. Invasive plants can be nonnative plants that have been introduced from another country, or they can be native plants that are foreign to a particular ecosystem.

A thorough inventory of invasive species within the planning area and smaller, constituent properties has not been conducted. During general reconnaissance of the properties, several invasive species were noted and are discussed in Appendix 7.

It is BLM policy to undertake integrated noxious weed management activities and implement programs including those which:

- Promote and facilitate cooperation and coordination among various agencies and private organizations and individuals;
- Protect, enhance and wisely use terrestrial and aquatic ecosystems;
- Provide land and aquatic resource inventories compatible among agencies to identify and classify noxious weed infestations.

It is a BLM and DNR management priority to prevent the establishment and spread of new weed infestations.

Appendix 7 lists the common and scientific names of invasive plants known to occur within Douglas Point, Purse State Park and Wilson Farm properties.

Biological Environment - Animals

Wildlife

There is a close relationship between the types, diversity and numbers of wildlife populating an area and the quality, diversity and size of the available habitat. An understanding of this relationship is important when considering and evaluating new activities and land uses and the effect they may have on the native species. Some species are sensitive to specific changes, while others are extremely tolerant and adaptive. If some native species are becoming scarce due to loss of habitat, locally or regionally within their range, then they may be protected by federal, State or local regulations.

The Douglas Point region is rich with mast producing trees and fruit producing understory vegetation. As a result, the western Charles County tracts also play host to many game and non-game mammal species, including but not exclusively, masked shrew, foxes, otters, opossum, moles, bats, skunk, mink, raccoon, and white-tailed deer. Coyotes and bobcats are also believed to sparsely inhabit the area.

The area is also home to a multitude of perching birds such as blue jays, robins, sparrows and blue birds, and a variety of ducks as well as Canada geese. Wading Birds also are common including the great blue heron and green heron. Gallinaceous birds such as mourning dove and wild turkey can be also found, along with a healthy population of raptors such as barred owls, osprey, and bald eagles. The large unbroken forest also provides habitat for Forest Interior Dwelling Bird Species (FIDS).

In 1980, the Douglas Point tract contained a reported 24 reptile and 18 amphibian species. Currently, one can readily find several species of frogs, toads, turtles, salamanders, lizards, and

snakes. The Nature Conservancy has identified the Douglas Point region as one of the most the biologically diverse areas in the State of Maryland and is worthy of conservation.

Fisheries

The important recreational and commercial fisheries resources adjacent to the combined properties, referred to as the "Douglas Point Properties," are mainly confined to the Potomac River mainstem. Some of the species include Striped bass (Morone saxatilis), White perch (Morone americana), Channel catfish (Ictalurus punctatus), Largemouth bass (Micropterus salmoides), and Blue crab (Callinectes sapidus).

Management authority for the mainstem tidal Potomac River below the District of Columbia for most species belongs to the Potomac River Fisheries Commission (PRFC). They are charged with collecting commercial landings and other similar data. Tributaries and some reaches of the nearshore area are under Maryland DNR jurisdiction. Information on annual harvest can be obtained through the PRFC office at Colonial Beach, Virginia or through Maryland DNR Fisheries Service. Although management authority falls under PRFC, they have no field staff for performing population or environmental assessments. Therefore, the following two projects have been performed by DNR Fisheries Service and pertain to this area.

Tidal Black Bass Project

Largemouth and smallmouth black bass are annually monitored for relative abundance, condition (relative weight), length at age and other parameters. Previous surveys have indicated a healthy population of largemouth bass and occasional smallmouth. Condition and growth are better than most inland waters. Reproduction is adequate though not as high as levels in Maryland impoundments. Tidal river black bass are heavily dependant on submerged aquatic vegetation (SAV). Stable and abundant nearshore grass beds attract and provide much of habitat for bass in this area.

Juvenile Finfish Survey (young-of-year bass survey)

The juvenile finfish survey was initially established to estimate annual striped bass reproduction of the various spawning populations around the bay. The data have since proven useful in tracking adult or juvenile abundance of many estuarine finfish. Two stations, seined annually, are adjacent to the planning area. Other data collected and available include bottom types, percent coverage of SAV in the sample area, water temperature, salinity, and sample depth.

Other aquatic resource data are available through the Maryland DNR Watershed Assessment Division. The Maryland Biological Stream Survey prepares comprehensive surveys of small stream habitat and biota including electrofishing and benthic sampling. While no streams within the boundaries have been sampled, data are available for similar sites in the region.

Chesapeake Bay Critical Area

For purposes of protecting the Chesapeake Bay and regional waterways, shorelines, and related habitats, Maryland law requires stringent review and approval of land use changes on properties located within the Critical Area. The Critical Area is defined as all land and waters within 1000-feet of the mean high water line of tidal waters, wetlands, and tributary streams (See Map 8. Water Resources (Wetlands) in Douglas Point Area on page 3-11 for a general depiction of the Critical Area). In addition, all land within 100-feet from the mean high water line of tidal waters; tributary streams and tidal wetlands that are within the Critical Area represent the Critical Area Buffer. The buffer also varies to encompass steep slopes greater than 15 percent, adjacent wetlands, highly erodible soils, and sensitive habitats.

A significant portion of the planning area is located within the Critical Area. All proposed development, uses, and activities, must comply with the Critical Area Regulations, including removal of vegetation. Additional information about the Critical Area and the Douglas Point properties is located in Appendix 11.

Special Status Species

The special status species (also known as rare, threatened and endangered species) are listed by the U.S. and Wildlife Service and the State of Maryland

One federally and State-listed species is known to inhabit the planning area (bald eagle), another may occur in freshwater tidal wetlands (sensitive joint-vetch), and one species occurs adjacent to the planning area (dwarf wedge mussel). The planning area includes habitat for numerous species that are rare, threatened or endangered in Maryland. Appendix 13 lists some of the species that are currently and historically known to reside in the vicinity of the planning area (within approximately one mile) and the preferred habitat of each species.

A number of Species of Concern have been documented recently or historically in the vicinity. These include the shortnose sturgeon (Acipenser brevirostrum) listed as "Endangered" and Atlantic sturgeon (Acipenser oxyrhynchus) listed as rare. (See also Appendix 13).

Cultural and Historic Resources

The cultural and historical influences on the land over time provide a context for understanding the region, its resources, and its inhabitants. This section provides a historical and cultural overview for the planning area. Specific focus is centered on the Douglas Point tract, and the surrounding area and the BLM-owned Maryland Point Naval Observatory tract. (For a more detailed historical overview, analysis and recommendations for cultural resources management refer to Appendix 4.)

Many cultures and people have called the Nanjemoy Peninsula home over the millennia. Artifacts have been found that indicate the presence of some of the oldest cultures in what is now the Mid-Atlantic region of the United States. Archaeologists have found traces of cultures dating from 12,000 years before present (B.P.) to the Woodland Native American period. The area also supported populations of Native Americans at the time of first contact with Europeans in the early

17th century. After European settlement, many of the indigenous people were displaced. The region has also figured in colonial history, the American Revolution, and the Civil War.

Pre-Historic Period

Paleo-Indians were the earliest people to inhabit the region, from 12,000 B.P. to around 8,500 B.P. The Mid-Atlantic region contained the Eastern Woodlands, in which early human occupants began to establish a distinct cultural identity. Several well-known Paleo-Indian sites discovered in northern Virginia and along the Delaware River (Gardner 1974 and McNett 1985) have helped place these local peoples within the overall cultural and temporal context of the Mid-Atlantic States. These sites, and others (collectively) seem to suggest that Paleo-Indian peoples practiced a "seasonal round" of subsistence and non-subsistence related activities – which reinforced the highly mobile, nomadic, lifestyle.

The Archaic Period extends from 8500 to 3000 B.P. Within the western shore of Maryland, some researchers contend that increasing water levels of the local rivers have inundated many of the Late Paleo/Early Archaic archaeological sites situated along the current waterways, thus skewing the sample of recorded sites to only those located on upland landforms (Campbell and Davis 1998).

The Woodland Period dates from circa 3000 B.P. until the time of European contact in the Mid-Atlantic States (circa A.D. 1600). In the Chesapeake region, Woodland Period settlements reflect a gradual shift towards dispersal of small groups during part of the year and subsequent "fusion" of these groups into larger populations during other parts of the year. Another seasonal shift would disperse these large groups into smaller groups throughout the region. These groups moved between both settlement systems based on the availability of resources.

Late Woodland Period occupants throughout the region shifted towards an economy based primarily around large-scale (stable) agriculture - as the primary source of food and fiber. Throughout the Eastern Woodlands, and Mid-Atlantic States in particular, Late Woodland sites tend to be larger settlements (i.e., villages), which are typically located in agriculturally productive floodplains.

Contact and Early Historic Period

By the early 17th century, there was consistent, direct contact between Europeans and indigenous Native Americans located within the Chesapeake Bay region. Subsequent trading and contact occurred throughout the early 1600's between the English, the Conoy and other Algonquian groups situated along the Lower Potomac River – including the Piscataway, Patawomeke and others located within the Virginia and Maryland border. During the 1630's, the English granted large tracts of land along the Potomac River to European settlers, which effectively pushed Native Americans out of the area. According to Freest (1978), only a few hundred Conoy remained in southern Maryland by 1700.

Historic Period

The Wicomico River, Port Tobacco River, and Chicamuxen and Mattawoman creeks all saw substantial settlement throughout the 17th and 18th centuries. Tobacco became the major economic focus within in Charles County in the 18th and 19th centuries. Slave labor was fully involved in the increase of tobacco production and export from the county throughout the early- to mid-1800's. During the Civil War, the Union Army moved into Charles County. Large-scale military establishments were placed along the Potomac River in Charles County under the charge of Union General Joseph Hooker. Hooker's installations had their headquarters around Stump Neck and Rum Point, with extensive operations around Liverpool Point, Mallows Bay, and Douglas Point.

Throughout the 20th Century, Charles County continued to struggle with an impoverished economy and stagnant population. Following World War II, the county became more of a recreational and suburban retreat for residents in the metropolitan. Today, Charles County is primarily a suburban community to these cities. While a small percentage of residents maintain an existence based on agriculture (transitioning from tobacco to other crops), the majority of the local population depends upon the goods and services of the larger metro areas.

Wilson Farm – Mallows Bay

The inlet at Wilson Farm, known as Mallows Bay, has the distinction of being the largest wooden ship graveyard in the Western Hemisphere (Shomette, 1996). The burned-out remains of at least 88 wooden steamships and a plethora of other vessels sit in the bottom sediments in the cove. Most of these ships were constructed during a U.S. World War I effort to quickly construct many cargo and troop transports to minimize the impact of German submarine attacks on supply routes. Faulty design and changing technology rendered them obsolete. Various failed corporate salvage operations brought the ships to Mallows Bay where they played a role in the local economy by providing jobs and materials for local scrap collectors.

In the 1960's during the congressional hearings regarding possible removal of the ships, several groups provided testimony suggesting that the ship hulls, having been there for almost 40 years, had become an integral part of the Mallows Bay ecosystem and the local fishery. For various reasons they were never removed, and the ships remain today. Many of the sunken ships have trapped sediments and collected plant life to become artificial islands. In addition to the wooden ships, , other ship remains have been found, including 12 barges, several 19th century log canoes and schooners, various workboats, a car ferry called the Accomac, and possibly a Revolutionary War longboat (ibid.)

Maryland Point

The twenty-three acre tract recently transferred to the BLM in early 2002 from the United States Navy, known as the "Maryland Point Naval Field Station," has not been formally surveyed for archaeological resources. In the 1930's, R.G. Slattery conducted surface collections from the vicinity of Maryland Point, though the nature and disposition of these collections are unknown. The cultural resource files obtained through consultation with the Maryland Historical Trust

indicate that an historic landing site at the Potomac River is present within the vicinity of the Maryland Point tract, though the exact location and details of this site are unknown (MHT file: no date). No other cultural resources are noted within the tract.

A low intensity archaeological survey has been conducted in the nearby vicinity of the Maryland Point tract (Thompson 1979). This survey identified several prehistoric sites along the Potomac River shoreline east of Maryland Point suggesting a high likelihood of significant prehistoric sites within the Maryland Point tract. The presence or absence of these cultural resources can only be confirmed by an archaeological survey within the tract. The other site locations along the river, however, suggest that the Maryland Point tract may also be rich in cultural resource sites and features.

Paleontology

Maryland has a variety of interesting fossil locations ranging from the very recent shark teeth of the shores of the Potomac and Chesapeake Bay areas to very old, Paleozoic fossils of trilobites and brachiopods in western Maryland. In the Douglas Point area, only mollusks and sharks teeth have been found to date. These fossils date from late Paleocene era (65 m.y.a to 58 m.y.a). (See Appendix 2 for a description of the Federal paleontology program.)

The geologic formations exposed on the bed and shores of the Potomac and its tributaries in the planning area are very recent estuarine and river deposits. Within these sands, gravels and muds (depending on the environment of deposition) are the varied results of erosion from the entire Chesapeake Bay drainage area. It is possible to find virtually any kind of fossil from almost any period here, from ancient brachiopods to dinosaurs, and recent sharks. Material weathering out of the nearby cliffs is also deposited here. The scientific value of any remains (vertebrate, invertebrate, or plant) found in these recent deposits is minimal since they could have been transported any distance from their source.

Of much greater scientific interest are the Paleocene, Eocene and Miocene deposits which make up the cliffs and uplands of this area. These formations are nearshore deposits of the early Atlantic Ocean. They contain fossils of fish, sharks, rays, crocodiles and turtles. Fossil shells of gastropods and mollusks are also relatively common. When these fossils are exposed on the cliff faces, they are gradually eroded and transported down slope to the river deposits. If they are discovered before extensive erosion has occurred, rather complete specimens of these animals have been excavated. Properly excavated, these represent important scientific specimens. Since erosion of the cliff faces is an ongoing process, it can be expected that occasionally significant exposures will occur, even without human intervention. It can also be expected that the materials will erode and mix with the other detritus on the shore and then be transported away from its origin by the river or the tides.

Visual Resources

A Visual Resource Management (VRM) inventory is required for federal land or federal actions that may affect non-federal properties. At this time, only the Douglas Point and Maryland Point tracts have been inventoried to designate VRM classifications. (See Appendix 8 for a description of the VRM classes.)

Douglas Point is a largely forested, undeveloped tract of land with some brushed jeep and foot trails scattered throughout the property. Based on the objectives outlined, the area will be designated VRM Class I.

Until recently, the Maryland Point tract was owned by the U.S. Navy and managed as a satellite tracking and communications site. Most of the property has been cleared of vegetation and contains massive satellite tracking dishes that dominate the viewshed. Because of these structures, the area will be designated VRM class III. After the dishes and other structures are removed this designation will be revisited.

Recreation

With regard to the future management of the Douglas Point tract, Purse State Park and the Wilson Farm, it is important to put into a regional context the existing types of public lands and outdoor recreational and nature tourism opportunities that are in Charles County and the Nanjemoy area. This is to ensure that the recommendations in the CMP enhance and strengthen the surrounding network of public lands.

Table 3. DNR public land units in Charles County

Name	Designation	Acreage
Cedarville	SF[1]	2,449
Chapel Point	SP	828
Chapmans	UND	2,225
Chicamuxen	WMA	382
Doncaster Demonstration	SF	1,516
Hughsville Pond	FMA	3
Indian Creek	NRMA	580
Manning Hatchery	FMA	257
Mattawoman	NEA	2,474
Myrtle Grove	WMA	1,700
Patuxent River	NRMA	751
Purse	SP	149
Smallwood	SP	629
Welcome	FT	1
Zekiah	NEA	443
TOTAL		14,387

A report published for Charles County recognized nature tourism as a viable part of the local economy of Charles County, and provided recommendations for improving the visitor experience and implementing unifying tourism themes (Charles County 2000). (For additional information on nature tourism and the local economy, refer Socio-Economic Resources on page 3-20) The

1

Notes: State Parks (SP), State Forests (SF), Natural Resource Management Areas (NRMA), Natural Environment Areas (NEA), Wildlife Management Areas (WMA), Fish Management Areas (FMA), State Wildlands, Undesignated Land Units (UND)

report also identified the "importance of Douglas Point for habitat protection," and it stated that Maxwell Hall, Chapmans, the Mattawoman NEA, Mallows Bay-Douglas Point could be integrated into the Charles County nature tourism complex" by implementing some short-term improvements to those land units.

Special Area Designations

Currently, there are no federally designated special areas located within the planning area.

Socio-Economic Resources

Just as it is important to understand the historical relationships between humans and area resources, it is important to understand the current and projected future relationships between humans and available resources.

Located in southern Maryland, Charles County is one of the fastest growing counties in Maryland. The 2000 Census indicates that there are over 120,000 residents in the county compared to 100,000 a decade ago. Approximately 68 percent of the total population is white and 26 percent African American. Divided by election districts, La Plata and Waldorf have had the highest growth rates during the past twenty years. This factor is attributed to continued growth in the metropolitan area, and it is projected that the county will continue to grow at only a slightly slower rate throughout the near future.

The County's median household income is approximately $62,000, one of the highest family income rates in the state – a $20,000 increase compared to 1990. Charles County also has a relatively low poverty rate in the State, which the 2000 Census estimates at 5.5 percent for individuals over 18 years old, and for families, it is 3.7 percent. (The statewide poverty rate average is 8.5 percent.)

The Charles County Land Use Plan recognizes that during the next decade, it will be important to offer incentives and initiatives for small business development and the creation of jobs within the county to diversify the economic base. The 2000 Census substantiates this recommendation: the majority of the workforce in the county is in the managerial, professional and related occupations, with sales and office categories second, and the services industry third. Agriculture, which also includes forestry, fishing, and mining, comprises less than one-percent of the local economy. Charles County also has an average commuter travel time of 39 minutes, which is the second to the highest in the state. This may be attributed to the county's rapid growth, and reiterates the fact that many of the residents are not locally employed.

Located adjacent to the Potomac River, the Nanjemoy Peninsula has not been geographically defined. For the purposes of this discussion, the peninsula is roughly described as follows: from MD Route 224 just south of the US Naval Ordnance facility; proceeding southward along the Potomac River past Douglas Point, Lower Thomas Point and Maryland Point to Riverside; extending northward from the confluence of the Potomac and Nanjemoy Creek; proceeding northward along Nanjemoy Creek to MD Route 6; and then proceeding along MD Route 425 north and terminating in the proximity of Poor House Road.

Nanjemoy continues to be one of the slowest growing and least populated of the ten election districts in the county. Compared to Nanjemoy, the county's growth rate is expected to be 64 percent during the next twenty years, with La Plata and Waldorf being the targeted growth and economic development areas. Nanjemoy's growth rate is expected to be around 20 percent through 2020.

In 1990 the Nanjemoy population was estimated to be about 3,200. One of the census tracts includes most of the peninsula, and the 2000 Census estimates the current population at 3,640 residents. Of the residents who reside in the area, approximately 65 percent are white and 32 percent are African American, which is comparable to the countywide demographic breakdown by race. The Native American population is just over one-percent. There are approximately 1,269 family households in Nanjemoy and 1,400 houses. Approximately five-percent of the housing stock is for seasonal use.

Recreation and the Economy: The Importance of Heritage Tourism

One strategy for economic diversification in the county is through heritage tourism. Heritage tourism involves the assessment of the county's unique cultural and natural resources and investing in planning and marketing strategies to attract visitors to the region. Charles County's interest in furthering recreation and heritage tourism opportunities was captured in a recent study (Charles County 2000). The report evaluated the county's most significant cultural and natural resources, and provided recommendations for planning, marketing and implementation. The study also identified the economic impacts of the tourism and heritage tourism industry. In 1998 over $58 million was spent on tourism in the county and 820 people were employed in the industry. Tax receipts were $2.7 million and local hotel receipts were approximately $450,000. The Office of the Governor also reported that in 1999, Maryland's 47 State parks and six State forests had more than 10 million visitors statewide. The 2000 Year End Maryland Heritage Travel Report also observed that of the total tourism visitation in the State, approximately 27 percent of all trips are heritage tourism related.

More important, the report recognizes that Charles County, and especially the Nanjemoy Peninsula, is in an enviable position to capitalize on the growth and interest in the heritage tourism industry. The county has diverse landscapes consisting of tidal rivers, wetlands, and upland coastal forests; it has one of the most dense populations of nesting Bald Eagles in the lower 48 states; it is only 45 minutes from Washington DC; the Nanjemoy Peninsula borders the Potomac River, a designated Heritage Greenway, as well as Nanjemoy Creek, which is nationally recognized for its outstanding ecological resources; and Douglas Point is well known for its documented Native American archeological sites and its role during the colonial period, War of 1812, and Civil War. The report summarizes these observations by saying that, "simply put Charles County is positioned to offer these millions of visitors an opportunity to experience the natural history that shaped and fashioned the founding of our nation."

In regards to the Lower Potomac River planning process, key recommendations in the Nature Tourism study state that Charles County must have a "plan to maximize the nature-viewing potential of county, State, and federally owned properties . . .. "This includes the string of nearby and complementary protected properties such as: Chapman's Forest, the Mattawoman Natural Environmental Area, Maxwell Hall, Friendship Farm, and Mallows Bay/Douglas Point". In addition, the study discusses the Lower Potomac River conservation strategy, citing that the outcome of the effort will result in increased public water-access, improved water quality

protection, and the addition of newly protected lands for wildlife viewing and interpretation. The report continues by evaluating the heritage tourism opportunities for Purse State Park, Mallows Bay/Douglas Point, and several other key public lands.

Following is a summary of the report's recommendations for Mallows Bay, Friendship Farm and Purse State Park.

Table 4. Nature tourism recommendations (Charles County. 2000)

Mallows Bay/Wilson Farm	Friendship Farm Park	Purse State Park
kayaking, canoeing birding/wildlife observation potential for a visitor interpretive center	Serve as a hub for the county's nature-oriented initiatives consider a nature and estuarine studies center water access	Improve parking and install signage improve/enhance trails install interpretive signage

Payments in Lieu of Taxes

Payments in Lieu of Taxes (or PILT) are Federal payments to local governments that help offset losses in property taxes due to nontaxable Federal lands within their boundaries. The PILT program is administered by the BLM throughout the nation. In 2002 Charles County received $2,224.00 from the BLM for 973 acres. (BLM 2002, http://www.blm.gov/pilt). See Appendix 9 for a description of how PILT payments are calculated.

Environmental Justice

On February 11, 1994, President Clinton issued Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." This Executive Order is designed to focus the attention of federal agencies on the human health and environmental conditions in minority communities and low-income communities. It requires federal agencies to adopt strategies to address environmental justice concerns within the context of agency operations.

According to 2000 Census data for the census tract that encompasses most of the Nanjemoy area, the socio-economic characteristics for the tract do not vary significantly from those of the whole county. Therefore, any federal actions would fall proportionately on all populations and communities.

Human Health and Safety

The Nanjemoy region does not have a landfill or solid waste transfer site. All solid waste is transported by residents and businesses to an approved landfill, transfer facility, or elsewhere in the county. Although Phase 1 environmental site assessments to determine the presence of toxic and hazardous substances have not been conducted on all of the Douglas Point tracts, no toxic or hazardous substances are known to exist on the properties based upon available information. Appendix 5 discusses each parcel.

Transportation System

The presence and adequacy of transportation systems in the area must be considered relative to the types or activities and plans for the Douglas Point area.

The planning area is traversed by several two-lane State and county roads, private lanes and unimproved trails The primary north/south roads are MD Route 224/Riverside Road, located inland but generally parallel to the Potomac River shoreline, and MD Route 6/Port Tobacco Road, which is located east of MD Route 224 and largely comprises the eastern boundary of the northern two thirds of the planning area. MD Routes 224 and 6 are connected by east/west roads, such as MD Route 344/Chicamuxen Road on the northern end of the planning area and Liverpool Road in the middle of the planning area.. In the southern portion of the planning area, MD Route 224 is the only primary route, changing from a north/south direction to an east/west direction in the vicinity of the Maryland Point tract, traversing the middle of the southern planning area and terminating at its connection with MD Route 6.

Traffic volumes are extremely low in the planning area. This may change significantly due to a proposal by Maryland Rock Industries, Inc to operate a gravel mine adjacent to the Douglas Point Properties which could introduce up to 200 trucks per day on MD Route 224 from the Douglas Point properties northward.

The planning area is not covered by a recreational trail plan, although the Potomac River Water Trail does identify selected sites of interest along the Potomac shoreline at Mallows Bay (Wilson Farm) and Wades Bay (Purse State Park). Public access to State and federal lands is limited to unimproved trails, which do not currently meet universal access requirements. No trails are open to off-road motor vehicle use.

Chapter Four – Environmental Impacts

Introduction

This chapter provides an analysis of the impacts that are expected under any of the alternatives. It focuses on the potential impacts that may result from the proposed uses and activities presented in Chapter 2, and avoids speculation of unlikely events. It describes mitigation measures that could be taken to avoid or minimize impacts. This information is presented in a table that summarizes the impacts by alternative. The chapter assesses the direct, indirect and cumulative impacts of the three alternatives, as is required by the National Environmental Policy Act (NEPA) of 1969. This assessment also supports Maryland's environmental review requirements for State lands.

Assumptions

The following assumptions were made to conduct the analysis:

1. The alternatives would be implemented substantially as described in Chapter 2.
2. The BLM and its partners would have the funding and personnel required to implement the plan.
3. The BLM and its partners, despite operating under diverse requirements, will work cooperatively to provide a seamless operation to the public.
4. Assumed trends in recreation and tourism would be largely met.
5. The planning period for the analysis is ten to fifteen years after plan approval and when implementation begins. Short-term impacts are those that would occur during the first five years of plan implementation. Long-term impacts are those that would occur beyond the first five years. The plan may be implemented in phases as the required resources become available.
6. All site design for all structures and facilities shall be evaluated through the NEPA process (federal) and/or the project review (State) process for the purpose of determining and incorporating applicable site-specific federal and State environmental regulations. These processes and the associated guidance documents from the federal and State regulatory agencies' guidance documents are the source of the best management practices referenced throughout these assumptions. The best management practices must be incorporated into the design and implemented on the site in order to obtain and keep the required approvals and permits.
7. Site design and monitoring will incorporate best management practices, and will be employed to minimize disturbance to all sensitive areas, including slopes, highly erodible soils, wetlands, cultural sites and sensitive habitats, etc., for trails and facilities.
8. All properties will be closed to OHV/ORV, grazing & mineral leasing.
9. Motorized boating access is not feasible at the Naval Observatory, Douglas Point or Purse SP property due to the presence of steep slopes, shallow water depths off-shore, and\or lack of sheltered locations.
10. Safety will be a factor considered in the design, implementation, use and management of the properties.
11. Priority will be given to placing facilities in areas previously cleared of vegetation or not containing significant forest habitat. Forest fragmentation will be avoided to the greatest extent possible. Large blocks of forest will be maintained to protect forest interior dwelling species (FIDS) habitat. If impacts to FIDS habitat within the Critical Area are proposed, mitigation will be required in accordance with the Critical Area Commission's guidance publication.
12. Vegetation associations, tree stand integrity and habitat consistency would be considered during trail and facility design.

13. Where feasible, areas with rare, threatened and endangered flora will be avoided and protected from disturbance by including appropriate buffers around them to mitigate accidental impacts. Protective and restorative management techniques should be employed to maintain viability of the species and habitat. The agencies will assess during implementation the feasibility of maintaining open habitat areas to support protected plant species. Within the Critical Area portion of the properties, impacts to rare, threatened and endangered species and their habitats are generally prohibited without a conditional approval from the Critical Area Commission.
14. Maintain appropriate buffers around rare, threatened and endangered fauna habitat, and avoid to the extent possible.
15. Ecological restoration will occur wherever appropriate, particularly in riparian areas.
16. All management actions will be conducted in a manner conforming to the water quality management objectives that have been developed by the State of Maryland.
17. All future management actions under this plan will be conducted in a manner that conforms to the objectives of the Maryland State Historical Trust, and applies to federal regulatory requirements.
18. Measures for minimizing soil erosion will be made on a site-specific basis through evaluation of management actions and implementation of best management practices in accordance with Maryland Department of Environment (MDE) sediment and erosion control regulations, the Forest Conservation Act (FCA) and the Critical Area regulations.
19. Proposed uses will be evaluated for their potential to release hazardous materials into the environment. Use of hazardous materials/chemicals at the project site/Planning Area is prohibited. The discovery of illegal dumping will be handled in accordance with the reporting, identification, and remediation requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).
20. All future management actions under this plan will be conducted in a manner that conforms to the objectives of the Maryland Air Quality Implementation Plan.
21. Applicable fire management practices will emphasize fire prevention, hazardous fuel reduction, rapid response and use of appropriate suppression techniques.

Summary of Alternatives with Associated Activities

Refer to Chapter 2 for a comprehensive description of the activities expected under each of the alternatives. The following section briefly describes the alternatives for easy reference.

Alternative 1 – "No Action" required under the National Environmental Policy Act (NEPA), would be a continuation of current management, and provides a baseline to which other alternatives can be compared. Alternative 1consists of currently authorized activities under interim management. The BLM portion of the Douglas Point tract would be open to passive use only and the former-Maryland Point Naval Observatory would remain closed to the public (removal of the structures and other remediation can go forward without land use planning). State laws will guide interim uses at Wilson Farm until the plan is completed. Purse State Park will continue to be managed as it is currently. No additional federal land acquisitions would be authorized under this alternative.

Alternative 2 – "Heritage Alternative" emphasizes the area's cultural and historic resources and includes low intensity recreation use of the public land. Limited construction of new facilities, small campgrounds and trails would be allowed. Federal land acquisitions would be allowed, but would focus on protecting cultural resources at risk. No motorized vehicles would be allowed on the Douglas Point tract.

Alternative 3 – "Nature Tourism Alternative" considers a moderate level of recreation use. This alternative would allow the construction of one boat ramp, interpretative signage and small- to moderate-sized campgrounds. Acquisition of new properties would be allowed based on a set of criteria, such as the State's Green Infrastructure

initiative, consistent with the Federal Land Policy and Management Act. New facilities could include a visitor's center to interpret the region's cultural and historical heritage, diversity and abundance of natural resource values and for other purposes. Construction of one or more parking lots would be considered; the exact location and size would be determined in future site design. New trails could be built to connect public lands and consideration would be given to acquiring easements or purchasing land to construct the trails. Trails would be open to a variety of recreational pursuits, including hiking, mountain biking and horseback riding. No Federal or State lands would be opened to off-road vehicle use.

Alternative 4 – "Community Vision Alternative" evaluates the natural and heritage and recreational opportunities recommendations from the "Nanjemoy Naturally" community vision plan. Potential activities would include the prohibition of siting facilities on the west side of MD State Route 224 on the Douglas Point tract. Trails and trail enhancements would be considered after site specific assessment to avoid sensitive resources. No motorized vehicles would be allowed on the Douglas Point tract. Future uses for the Maryland Point property would be considered in a site specific recreation implementation plan.

Other properties

Ben Doane Road (PEPCO Tracts 1 & 2)

West side of MD 224

This tract has historically been used as a forested area and for hunting. Evidence of ORV use from adjacent properties exists despite posted signs stating prohibition of use. Passive use of this property will continue. Hiking and hunting that is managed by the Wildlife and Heritage Service will continue. Parking is currently a cleared area on the shoulder of Ben Doane Road. No infrastructure is planned for the area.

East side of MD 224

This forested tract has historically been used for hunting and some equestrian use. Passive use of this property is expected to continue. Hiking and hunting that is managed by the Wildlife and Heritage Service will continue. Parking is currently a cleared area on the shoulder of Ben Doane Road, across MD 224. No infrastructure is planned for the area. The property should be monitored to prevent adverse impacts due to informal use by the public. Some impacts may include compaction of soil and erosion due to over-use of the parking area, unplanned trails blazed by visitors, impacts to understory vegetation, and erosion and degradation of streams and wetlands where informal crossings exist, and the potential for accidents due to unsigned pedestrian crossing. These impacts can be mitigated through site monitoring and posting and marking MD 224 for pedestrian crossing.

Summary of Environmental Impacts

The following table summarizes the impacts to the affected resources under each alternative at each of the four major properties. It may also be used to compare and contrast the alternatives to each other. The table also briefly describes possible mitigation measures that may be used to avoid, reduce or eliminate potential impacts.

Table 5. Summary of Environmental Impacts

Issues	Alt No.	Douglas Point	Wilson Farm	Purse State Park	Maryland Pt.
Air Quality	1	No impacts			
	2, 4	Impacts: Negligible local impacts due to increased visitation to the area.			No impacts
	3	Impacts: Negligible local impacts due to increased visitation to the area.			
Geology	All	No impacts			
Topography	1	No impacts			
	2	Impact: Grading may be required to improve parking.	Impact: Grading may be required for parking, roads, boat launch facility and structures.	No additional impacts	No impacts
		Mitigation: Grading should follow contours of the land to prevent erosion and avoid steep slopes, where feasible.			
	3	Impacts: Grading may be required for placement of parking, roads, and structures.	Impacts: Grading may be required for placement of parking, roads structures and construction of boat ramp/launch.	Impacts: Grading may be required for placement of parking, roads, and structures.	
		Mitigation: Grading should follow contours of the land to prevent erosion. Avoidance of steep slopes.			

	4	Impacts: Grading may be required for placement of parking, roads, and structures.	Impacts: Grading may be required for placement of structures and placement of boat ramp/launch.	Impacts: Grading may be required for improvement of parking.	No impacts
		Mitigation: Grading should follow contours of the land to prevent erosion and avoid steep slopes, where feasible.			No impacts
Soils	1	Impacts: Unmanaged visitation and lack of trail design may cause localized erosion and compaction in areas where the public creates trails. Mitigation: Trail and other recreational uses should be regularly evaluated to revise visitor management strategies.		Impacts: Continued informal trail establishment and poor parking situation may cause erosion where current parking lot exists and along water access routes.	No impacts
Soils (cont)	2	Impacts: Compaction and erosion of highly erodible and hydric soils may occur in areas of trails, interpretive sites, and water access. Fireline construction by mechanical means may cause soil disturbance.	Impacts: Compaction and erosion of highly erodible and hydric soils may occur in areas of trails, interpretive sites, day use and boat launch. Fireline construction by mechanical means may cause soil disturbance.	Impacts: Compaction and erosion of highly erodible and hydric soils may occur in areas of trails, interpretive sites, and water access Fireline construction by mechanical means may cause soil disturbance.	No impacts
		Mitigation: Site design should incorporate best management practices to avoid and minimize erosion and compaction of soil, and prevent runoff of sediments where impacts are unavoidable. Avoid steep slopes and soils prone to erosion, where feasible.			No impacts

Soils (cont.)	3	Impacts: Compaction and erosion of highly erodible and hydric soils may occur in areas of trails, interpretive sites, day use areas, camping, mountain biking, and water access.	Impacts: Compaction and erosion of highly erodible and hydric soils may occur in areas of trails, interpretive sites, day use areas, camping, boat ramp/launch area, and water access.	Impacts: Compaction and erosion of highly erodible and hydric soils may occur in areas of trails, interpretive sites, and water access.	Impacts: Compaction and erosion of highly erodible and hydric soils may occur in areas of trails, interpretive sites, day use areas, camping, and water access.
		Fireline construction by mechanical means may cause soil disturbance.			
		Mitigation: Site design should incorporate best management practices to avoid and minimize erosion and compaction of soil, and prevent runoff of sediments where impacts are unavoidable or caused by intense uses such as equestrian, mountain biking, and popular hiking trails.	Mitigation: Site design should incorporate best management practices to minimize erosion and compaction of soil, and prevent runoff of sediments where impacts are unavoidable.	Mitigation: Site design should incorporate best management practices to minimize erosion and compaction of soil, and prevent runoff of sediments where impacts are unavoidable.	Mitigation: Site design should incorporate best management practices to minimize erosion and compaction of soil, and prevent runoff of sediments where impacts are unavoidable.
		Impacts: Compaction and erosion of highly erodible and hydric soils may occur in areas of trails, interpretive sites, day use areas, camping, mountain biking	Impacts: Compaction and erosion of highly erodible and hydric soils may occur in areas of trails, interpretive sites, day use areas, camping, boat ramp/launch, and water access.	Impacts: Compaction and erosion of highly erodible and hydric soils may occur in areas of trails, interpretive sites, and water access	No impacts
	4	Fireline construction by mechanical means may cause soil disturbance.			

		Mitigation: Site design should incorporate best management practices to avoid and minimize erosion and compaction of soil, and prevent runoff of sediments where impacts are unavoidable or caused by intense uses such as equestrian, mountain biking, and popular hiking trails.	Mitigation: Site design should incorporate best management practices to avoid and minimize erosion and compaction of soil, to prevent runoff of sediments where impacts are unavoidable, or caused by intense uses such as popular hiking trails.	Mitigation: Site design should incorporate best management practices to avoid and minimize erosion and compaction of soil, and prevent runoff of sediments where impacts are unavoidable, or caused by intense uses such as equestrian.	
Water Resources	1	No impacts			
	2	Impacts: Localized degradation may result due to increased visitation and recreational uses and trail crossings. Mitigation: Degradation of streams and wetlands should be avoided by directing runoff from new parking lots and other structures to bio-retention treatment areas before discharge into water bodies. Establish buffers surrounding all riparian areas that take into account steep slopes, vegetation and habitat.			No impacts
	3	Impacts: Localized degradation may result due to increased visitation and recreational uses and trail crossings. Extraction of water from aquifers for comfort stations and camping at Douglas Point, Wilson Farm, and Maryland Point. Upgrade entrance road may impact wetlands at Maryland Point. Mitigation: Degradation of streams and wetlands should be avoided by directing runoff from new parking lots and visitor centers/other structures to bio-retention treatment areas before discharge into water bodies. Establish buffers surrounding all riparian areas that take into account steep slopes, vegetation and habitat.			

	4	Impacts: Localized degradation may result due to increased visitation and recreational uses and trail crossings. Extraction of water from aquifers for visitor center and camping at Douglas Point, Wilson Farm and Maryland Point. Mitigation: Degradation of streams and wetlands should be avoided by directing runoff from new parking lots, and visitor centers/other structures to bio-retention treatment areas before discharge into water bodies. Establish buffers surrounding all riparian areas that take into account steep slopes, vegetation and habitat.	Impacts: Widening and upgrade of entrance road would affect wetlands. Mitigation: BMPs would be employed to reduce impact to wetlands. May include off-site replacement.
Vegetation	1	Impacts: Increased visitation, use of undesignated paths, and lack of trail maintenance may degrade habitat and plant/tree health. Mitigation: Monitor site to identify any degradation from over use and implement measures to minimize or prevent the impacts.	Impacts: Natural regeneration would occur unless maintenance is continued. No fire protection plan may result in larger losses due to unpredicted fire.

Vegetation (cont)	2	Impacts: Increased visitation and use of undesignated paths may degrade habitat and plant/tree health. Removal of vegetation may be required for construction of parking lots, structures, day use areas, and possibly trails. Impacts may be greater at Wilson Farm because more activity is directed to this site. Fireline construction by mechanical means may cause soil disturbance, selective tree removal and possibly burning-out operations to prevent the fire from spreading across a fireline. Mitigation: Site design should utilize natural openings in the canopy and understory, avoid high quality habitat, and minimize intrusion into sensitive areas. Planting of trees should promote transition from activity areas to natural areas. Fire management plan would improve fire control capabilities	Impacts: Natural regeneration would occur unless maintenance is continued. No fire protection plan may result in larger losses due to unpredicted fire. Mitigation: Fire management plan would improve fire control capabilities
	3	Impacts: The potential for degradation of habitat and individual plant health from increases in visitation at point of human contact would likely increase. Removal of some vegetation may be required for Heritage/Visitor center construction and camping at Douglas Point and/or Wilson Farm, a boat ramp/launch at Wilson Farm, day use facilities, establishment and hardening of paths and trail network, and parking at all three properties. Fireline construction by mechanical means may cause soil disturbance, selective tree removal and possibly burning-out operations to prevent the fire from spreading across a fireline. Mitigation: Site design should utilize natural openings in the canopy and understory, avoid high quality habitat, and minimize intrusion into sensitive areas. Planting of native vegetation would promote transition from activity areas to natural areas. Fire management plan would improve fire control capabilities.	Impacts: Active reforestation would control species reintroduction. Water access may cause disturbance to shoreline vegetation. Fire control measures may require some vegetation removal as necessary. Mitigation: Reforestation and/or landscape plantings would increase vegetation and habitat.

Vegetation (cont)	4	Impacts: The potential for impacts to vegetation from increases in visitation and recreational uses would be likely. Establishment and hardening of paths and trails, construction of a visitor/heritage center at Wilson Farm, installation of a boat launch at Wilson Farm, day use facilities at Douglas Point and Wilson Farm, and parking at the three properties may require disturbance to vegetation. Fireline construction by mechanical means may cause soil disturbance, selective tree removal and possibly burning-out operations to prevent the fire from spreading across a fireline. Mitigation: Site design should utilize natural openings in the canopy and understory, avoid high quality habitat, and minimize intrusion into sensitive areas. Planting of native vegetation would promote transition from activity areas to natural areas. Fire management plan would improve fire control capabilities.	Impacts: Active reforestation would control species reintroduction. Fire control measures may require some vegetation removal as necessary. Mitigation: Reforestation and/or landscape plantings would increase vegetation and habitat.
Forestry	1, 2, 4	No impacts. Before any forest management activities would take place, a forest management plan will be developed.	
	3	Impacts: Short term change in forest cover, increased road use, increased sunlight to forest floor that will increase natural regeneration and increase of woody debris in the forest. Selective harvesting would alter structure of forest community. Mitigation: A forest management plan will be developed. Harvest methods should retain natural character of forest and minimize degradation to habitat.	
Chesapeake Bay Critical Area	1	No impact.	

Chesapeake Bay Critical Area (cont)	2	Impacts: Increased human activity within the Critical Area. Refer to specific resource for other impacts. Disturbance would occur in the Critical Area Buffer at water access points on the properties, and for installation of boat launch at Wilson Farm. Mitigation: Mitigation will be required for tree removal. Impervious surface limits (15% of site) will apply. New development activities (except water development facilities) prohibited in the buffer. Protection of FIDs habitat and/or mitigation will be required. Impacts to buffer will be mitigated according to regulations.	No impact. Potential reforestation site.
	3	Impacts: Increased human activity within the Critical Area. Refer to specific resource for other impacts. Disturbance would occur in the Critical Area Buffer at water access points on all three properties, and for installation of boat ramp/launch at Wilson Farm and for water access for car top boats at Maryland Point. Mitigation: Mitigation will be required for tree removal. Impervious surface limits (15% of site) will apply. New development activities (except water development facilities) prohibited in the buffer. Protection of FIDs habitat and/or mitigation will be required. Impacts to buffer will be mitigated according to regulations.	
Chesapeake Bay Critical Area (cont)	4	Impacts: Increased human activity within the Critical Area. Refer to specific resource for other impacts. Disturbance to the Critical Area Buffer, including grading and possible vegetation removal, for installation of boat launch would be required. Impacts to Buffer will be identified during project review of site designs and mitigated according to regulations. Mitigation: Mitigation will be required for tree removal. Impervious surface limits (15% of site) will apply. New development activities (except WDF) prohibited in the Buffer.	No Impacts. Potential reforestation site.

Invasive Plant Species	1	Impacts: Invasive plants may colonize at an uncontrolled rate due to lack of management and unregulated visitation.	
	2,4	Impacts: New species introduction and spreading distribution of invasive species may occur. New network of trails may introduce invasive plants into forest interior, degrading forest community and reducing habitat quality for native wildlife. Clearing for parking lots, visitor center, and day use facilities, will promote invasive species around each facility. Mitigation: Active removal/control of known populations of invasive weeds.	Impacts: Invasive plants may colonize at an uncontrolled rate due to lack of management unless current level of maintenance is continued. Mitigation: Control of invasive plants via monitoring and management.
	3, 4	Impacts: New species introduction and spreading distribution of invasives may occur. New network of trails may introduce invasive plants into forest interior, degrading forest community and reducing habitat quality for native wildlife. Clearing for parking lots, visitor center at Douglas Point and/or Wilson Farm, day use facilities, campgrounds will promote invasive species around each facility. Mitigation: Active removal/control of known populations of invasive weeds.	Impacts: Invasive plants may colonize at an uncontrolled rate due to lack of managed regeneration unless current level of maintenance is continued. Additional visitation may introduce species. Mitigation: Active removal/control of known populations of invasive weeds.

Wildlife	1	No impact	Impacts: Populations of species preferring edge habitat may increase due to unmanaged natural regeneration.
	2	Impacts: New trails may introduce edge wildlife species into forest interior to detriment of forest interior wildlife species. Clearing for parking lots, visitor/heritage center at Wilson Farm, boat launch facility at Wilson Farm, and day use facilities will promote edge wildlife species around each facility to detriment of forest interior species. Increased visitation may cause additional automobile/animal collisions Mitigation: Locate trails outside exemplary natural communities. Locate facilities outside forest or along existing forest edges. Control populations through hunting..	Impacts: Populations of species preferring edge habitat may increase due to unmanaged natural regeneration. Mitigation: Manage populations through hunting.
	3	Impacts: New network of trails may introduce edge wildlife species into forest interior to detriment of forest interior wildlife species. Clearing for parking lots, visitor center, at Douglas Point and/or Wilson Farm, Boat ramp/launch facility at Wilson Farm, water access and various uses at Maryland Point, day use facilities, campgrounds may promote edge wildlife species around each facility to detriment of forest interior species. Increased visitation may cause additional automobile/animal collisions Mitigation: Locate trails outside exemplary natural communities. Locate facilities outside forest or along existing forest edges. Control populations through hunting; protections as identified/necessary.	

	4	Impacts: New network of trails may introduce edge wildlife species into forest interior to detriment of forest interior wildlife species. Clearing for parking lots, visitor center and boat launch at Wilson Farm, and day use facilities, may promote edge wildlife species around each facility to detriment of forest interior species. Increased visitation may cause additional automobile/animal collisions. Mitigation: Locate trails outside exemplary natural communities. Locate facilities outside forest or along existing forest edges. Control populations through hunting.	Impacts: Populations of species preferring edge habitat may increase due to unmanaged natural regeneration. Mitigation: Control populations through hunting.
Fisheries	1	No impact	
	2	Impacts: Increased impervious surface may increase runoff volume and velocity. Coupled with heavy trail use, erosion and sedimentation could affect habitat. Damage to habitat may result from boating associated with boat launch installation and use. Potential impacts to fisheries could occur with the placement of the launching ramp and channel for motorized boat passage. Mitigation: Runoff from facility development should be directed to bio-retention treatment areas - placement of any type of launching ramp and related facilities should avoid impacts to the boat basin, because of its habitat values.	No impact

Fisheries	3	Impacts: Increased impervious surface increases runoff volume and velocity. Coupled with heavy trail use, erosion and sedimentation could result. Potential timber harvesting could result in erosion, sedimentation of creeks, and increased runoff volume/velocity.	Impacts: Increased impervious surface increases runoff volume and velocity. Coupled with heavy trail use, erosion and sedimentation could result. Damage to habitat may result from boating associated with boat launch installation and use.	Impacts: Increased impervious surface increases runoff volume and velocity. Coupled with heavy trail use, erosion and sedimentation could result.	Impacts: Increased impervious surface increases runoff volume and velocity. Coupled with heavy trail use, erosion and sedimentation could result.
		Mitigation: Runoff from facility development should be directed to bio-retention treatment areas.	Mitigation: Careful placement of launching/ramp and channel for motorized boat passage. Runoff should be directed to bio-retention treatment areas before discharge. Because the boat basin is protected from wind and waves, it provides quality spawning/ nursery habitat to many species and should be protected from these impacts.	Mitigation: Runoff from facility development should be directed to bio-retention treatment areas - placement of any type of launching ramp and related facilities should avoid impacts to the boat basin, because of its habitat values.	Mitigation: Runoff from facility development should be directed to bio-retention treatment areas.

	4	Impacts: Increased impervious surface increases runoff volume and velocity. Coupled with heavy trail use, erosion and sedimentation could result. Potential impacts to fisheries should be avoided by careful placement of boat launch and channel. Mitigation: Runoff from facility development should be directed to bio-retention treatment areas - placement of any type of launching ramp and related facilities (Wilson Farm only) should avoid impacts to the boat basin, because of its habitat values.	No impact	No impact
Special Status Species	1	Impacts: Possible incidental impacts from casual users illegally collecting species and from lack of on the ground management and monitoring.		
	2	Impacts: Increased level of visitation and possible construction of a visitor center may have an effect on special status species due to removal of vegetation, higher noise levels and human presence in areas previously uninhabited. Predators and invasive species may impact habitat quality as a result of trail use and day use activities. Mitigation: Surveys for rare/sensitive species shall be conducted prior to locating trails, parking lots or visitor facilities. Protection of species and habitat via avoidance and Ecological Sensitive Area (ESA) buffers would be established to ensure persistence and survival. Sec. 7 Endangered Species Act consultation with US Fish and Wildlife Service during implementation planning and prior to on the ground activities.		

	3	Impacts: Increased level of visitation and possible construction of larger visitor center than Alts 2 and 4 under this alternative may have a greater effect on special status species due to removal of vegetation, higher noise levels and human presence in areas previously uninhabited. Predators and invasive species may impact habitat quality as a result of trail use and day use activities. Mitigation: Surveys for rare/sensitive species shall be conducted prior to locating trails, parking lots or visitor facilities. Protection of species and habitat via avoidance and buffers should ensure persistence and survival. Sec. 7 Endangered Species Act consultation with US Fish and Wildlife Service during implementation planning and prior to on the ground activities.	
	4	Impacts: Increased level of visitation and possible construction of visitor center may have an effect on special status species due to removal of vegetation, higher noise levels and human presence in areas previously uninhabited. Predators and invasive species may impact habitat quality as a result of trail use and day use activities. Mitigation: Surveys for rare/sensitive species shall be conducted prior to locating trails, parking lots or visitor facilities. Protection of species and habitat via avoidance and buffers should ensure persistence and survival. Sec. 7 Endangered Species Act consultation with US Fish and Wildlife Service during implementation planning and prior to on the ground activities. .	
Cultural and Historic Resources	1	Impacts: Degradation and adverse effects to cultural and historical resources may result from administrative benign neglect, looting, vandalism or unintended abuse from curious visitors. No or few management actions will result in minimal support and funding to perform baseline archaeological inventories, evaluation of site eligibility/significance and for protection and stabilization of threatened resources.	Impact: Low likelihood of impact on the Md. Point property due to fence.

Cultural and Historic Resources (cont.)	2	Impacts: Degradation of the quality of the resource may result from grading, construction, overuse of interpretive sites, unintended abuse from curious visitors, and looting. These impacts may result from trail use, cultural tours, day use visitors, hunters, etc. At Wilson Farm, potential degradation of underwater resources may occur as a result of boat traffic from the launch, curious visitors, fishing activities, and looting. Mitigation: Prior to any potential Federal or State undertaking – i.e. grading for or construction of any amenity, facility, trail or structure, the BLM and DNR shall adhere to the guidelines for compliance within 36 CFR 800 (Section 106) of the National Historic Preservation Act and Maryland Historic Trust's guidelines for historic preservation. A comprehensive cultural resources management plan and site interpretive plans should address potential impacts to cultural resources. Adverse effects due to trail construction, overuse of interpretive sites, looting and vandalism can be mitigated by carefully selecting sites for public interpretation, performing archaeological data recovery and recordation, capping/hardening high use areas (i.e. trails) and careful placement of barriers and interpretive signage. Planning for interpretive sites should link to ongoing regional and local heritage tourism initiatives. Conduct a survey of submerged archeological resources prior to constructing boat ramp or pier, or the dredging of channels at Wilson Farm/Mallows Bay. Some areas may need to be posted for the prohibition of artifact disturbance or collection.	Impact: Unknown until site surveys are conducted to determine extent of cultural resources.
Cultural and Historic Resources, cont	3	Impacts: Degradation of the quality of the resource may result from grading, construction, overuse of interpretive sites, unintended abuse from curious visitors and looting. Impacts may result from trail use, cultural tours, day use visitors, hunters, etc. At Wilson Farm and Maryland Point, potential degradation of underwater resources may occur as a result of boat traffic from the launch, curious visitors, fishing activities, and looting. Mitigation: See Alt. 2	Impact: Unknown until site surveys are conducted to determine extent of cultural resources.

	4	Impacts: Degradation of the quality of the resource may result from grading, construction, overuse of interpretive sites, unintended abuse from curious visitors, and looting. These impacts may result from trail use, cultural tours, day use visitors, hunters, etc. At Wilson Farm, Potential degradation of underwater resources may occur as a result of boat traffic from the launch, curious visitors, fishing activities, and looting. Mitigation: See Alt 2			
Paleontology	1	Impacts: Paleontological resources could be affected because this alt. affords the fewest management options. Mitigation: None		No impacts	Impacts: These resources could be affected because it affords the fewest management options. Mitigation: None
	2, 3, 4	Impacts: Under these alternatives, paleontological resources could be affected by illegal collection. Mitigation: Educational materials, additional on-the-ground management visibility would reduce illegal collections and loss of resource.			
Visual Resource Management (Federal land only)	1	Impacts: No effect Designated VRM Class II	N/A	N/A	Impact: Facilities will be removed, improving scenic quality from river. Structures not visible from road or most of adjoining properties.

	2	Impact: Surface disturbance from visitor facilities would affect scenic quality. Designated VRM Class IV Mitigation: BMPs would be employed to reduce impact to visual quality			Impacts: Surface disturbance from visitor facilities would affect scenic quality. Designated VRM Class III Mitigation: BMPs would be employed to reduce impact to visual quality
	3				Designated VRM Class IV
	4				Designated VRM Class IV
Recreation	1	Impacts: BLM-Low level casual use will continue	Impacts: Unmanaged visitation and lack of trail design may cause localized soil erosion and compaction and degradation of vegetative habitat in areas of repeated use .	Impacts: Continued informal trail establishment and poor parking situation may cause erosion where current parking lot exists and along water access routes.	No impacts
		Mitigation: None identified	Mitigation: Monitor site to identify any degradation from over use and implementing measures to minimize or prevent the impacts. Fishing and/or hunting permits required.		N/A

	2	BLM-trails will provide opportunities for hiking, biking, horseback riding, hunting, and wildlife viewing. Safety issues could arise during hunting seasons due to increased use of designated trails, as well as off trail use by visitors other than hunters. Shoreline will provide day use opportunities, e.g., picnicking, for visitors in non-motorized boats.	Impacts: There would be negligible impacts on the quality of the recreational experience due to the levels and intensities of use and numbers of visitors.:	Day use opportunities available to visitors using non-motorized boats.
		Mitigation: Monitor and evaluate recreational activities through an annual work plan to identify and address areas of potential resource degradation and user conflicts. Manage potential user conflicts through visitor education, signage, and trail and facility location and design. The location, number and types of trail systems and public facilities are subject to future project review and site plans that also address visitor use. . Manage hunting through permitting.		
	3	Same as Alt. 2.	There would be negligible impacts on the quality of the recreational experience due to the levels and intensities of use and numbers of visitors.	Day use and camping opportunities available to visitors in non-motorized

		Mitigation: Monitor and evaluate recreational activities through an annual work plan to identify and address areas of potential resource degradation and user conflicts. Manage potential user conflicts through visitor education, signage, and trail and facility location and design. The location, number and types of trail systems and public facilities are subject to future project review and site plans that also address visitor use. . Manage hunting through permitting.	visitors in non-motorized boats
	4	Same as Alt. 2	Same as Alt. 3
Economic Conditions*	1	Potential Total Direct Expenditures: $9,300 Potential Total Output (Minus Other Costs): $5,698 Potential Earnings (Minus Other Costs): $175	
	2	Potential Total Direct Expenditures with Other Costs: $1,389,460 Potential Total Output (Minus Other Costs): $1,982,464 Potential Earnings (Minus Other Costs): $325,603	
	3	Potential Direct Expenditures: $3,090,260 Potential Total Output (Minus Other Costs): $4,412,700 Potential Earnings (Minus Other Costs): $714,442	
	4	Potential Direct Expenditures: $1,488,460 Potential Total Output (Minus Other Costs): $2,107,600 Potential Earnings (Minus Other Costs): $350,100 Notes: Total Direct Expenditures includes: projected total annual recreation user expenditures, one selective harvest per year, on-site facility construction and\or guide services, depending on the alternative. Total Direct Expenditures do not include equipment purchases. Estimated outputs and earnings are calculated from direct expenditures minus Other Costs as defined in the 2001 U.S. Fish and Wildlife's Maryland Survey and applied to RIMS II. Refer to the Appendix 14 Economic Analysis – Methodology, Assumptions, Limitations and Sources.	

Social Environment	1-4	Impact: None of the alternatives would affect the social environment. Economic conditions would not be affected to the extent that additional social services would be required.	
Human Health and Safety	1	Impacts: Possible safety issues to casual users using unimproved trails and walking along unsigned bluffs Mitigation: Place signs at trail heads and near bluffs	No impacts
	2	Impacts: Small increase in traffic resulting from additional heritage visitors could create minor traffic problems and chances for accidents. Mitigation: Access to public facilities may require deceleration lanes from local roads.	
	3, 4	Impacts: Additional traffic, especially in summer months and weekends may increase chances for vehicle accidents	

Other properties

Ben Doane Road (PEPCO Tracts 1 & 2)

West side of MD 224
Some impacts may include compaction of soil and erosion due to over-use of the parking area, unplanned trails blazed by visitors, impacts to understory vegetation, and erosion and degradation of streams and wetlands where informal crossings exist. The property should be monitored to prevent adverse impacts due to informal use by the public.

East side of MD 224
Some impacts may include compaction of soil and erosion due to over-use of the parking area, unplanned trails blazed by visitors, impacts to understory vegetation, and erosion and degradation of streams and wetlands where informal crossings exist, and human/car collisions due to unsigned pedestrian crossing. The property should be monitored to prevent adverse impacts due to informal use by the public.

Cumulative Impacts

The Council on Environmental Quality's (CEQ) NEPA regulations (40 CFR 1508.7) define cumulative impacts as the impact:

> . . . on the environment, which results from the incremental impact of the action, when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

In other words, federal agencies need to consider whether their actions could become the "straw that breaks the camel's back." The planning team analyzed whether the proposed activities could result in synergistic impacts. For instance, would any of the alternatives cause the loss of sufficient critical habitat to affect a special status species or increased numbers of tourists would overwhelm the existing local road network? This analysis showed that all of the draft alternatives consist of such low levels of activity and construction that they do not likely pose any measurable cumulative environmental impacts.

Under Alternative 1, It is possible that impacts from unplanned activities and unstructured uses, such as parking, trail blazing and trails establishment by visitors may include unsafe parking practices, road blockage, and degradation of roadside vegetation; soil compaction and erosions and degradation of understory vegetation along makeshift trails; increases in opportunistic wildlife species preferring edge habitat and areas of human activity, degradation of streams and wetlands at trail crossings due to run-off and sedimentation, litter and pollution, and impacts to shoreline vegetation due to increased visitation.

For the remaining alternatives, the impacts would be greater than Alternative 1. The degree of actual impact that would occur as a result of each alternative would depend, in part, on application of use limits to control visitor use. Assuming those limits were consistently applied

among alternatives, Alternative 2 would have the least impact, followed by Alternative 4. Alternative 3 would have the greatest impact on the properties.

The common impacts would be soil compaction and erosion in day use areas and on trails, unplanned trails created by the public, degradation of understory vegetation along trails, increase in edge wildlife species and opportunistic species in areas of clearing and human activity, degradation of streams and wetlands at trail crossings and due to run-off, litter and pollution in the boat ramp area and day use areas, and impacts to shoreline vegetation due to increased visitation. In general, the properties would begin to look used, as opposed to the current conditions where evidence of human impact is relatively sparse.

Chapter Five – Consultation and Coordination

Agencies, Organizations, and Persons Consulted

Governmental Agencies
- Charles County
- Chesapeake Bay Program

Interest Groups
- The Conservation Fund
- Chesapeake Bay Foundation
- The Nature Conservancy
- The Conservancy of Charles County
- Nanjemoy-Potomac Environmental Coalition
- The Wilderness Society

List of Preparers

An interdisciplinary team of resource specialists from the State of Maryland and Bureau of Land Management prepared the draft plan:

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Public Involvement

Before the planning process began, BLM hosted a collaboration workshop as a way to introduce the agency to the citizens of Southern Maryland. The workshop was held in Waldorf in April 2001.

Scoping

The scoping process was initiated by publishing in the Federal Register a Notice of Intent (NOI) to Prepare the Lower Potomac River Coordinated Management Plan and public notices in the Maryland *Independent* and Washington *Post* (Southern Maryland edition). BLM also provided a short article for publication in the Nanjemoy-Potomac Environmental Coalition newsletter. Staff from BLM, DNR and Charles County attended local forums in Nanjemoy throughout 2001 and early 2002 to answer questions and provide status updates.

The two public scoping workshops were designed and hosted by BLM, DNR and Charles County with the assistance of a private contractor. Agency staff also coordinated their public participation efforts with the Nanjemoy Community Vision Committee of Nanjemoy, Maryland. The Nanjemoy Vision Committee published the workshop notice on its web page, and sent the notice to approximately 70 local residents who were on its list server. The notice was also placed in the Washington *Post* (Southern Maryland Edition), and notices were sent to: the Charles County Delegation, the Administrator of the Commissioners of Charles County, the Charles County Parks Department, the Charles County Department of Tourism and the participants and organizational representatives (recreational, environmental, local businesses, mining and local residents) who attended the collaborative workshop in April, 2001.

The program was designed to give the public a range of input opportunities, including:

- Two official public workshops in Charles County (March 2002 in Nanjemoy and La Plata);
- A newsletter provided to all participants at the workshops describing the project; and
- A written comment period, which was extended once as requested by interested parties.

A nontraditional forum for soliciting input was used to focus the workshops. Individuals and representatives of interest groups met in small-groups discussions to facilitate in-depth dialogue

about the issues and to solicit other concerns, and opportunities for management. All issues and concerns and opportunities expressed during the breakout sessions were recorded.

Public Workshops

The public workshops were held during consecutive weekday evenings at easily accessible locations, with ample parking, that provided comfortable space for many people. At each meeting, Tom Roland, Chief of Parks and Grounds from Charles County, welcomed the public, and provided some background to the project from the County's perspective as a partner. Mr. Roland was followed by Mark Spencer of DNR's Resource Planning Division, who described the acquisition and planning project. Following his presentation, Howard Levine, BLM planning team leader, described the BLM planning process. All three then answered questions from the public. Sherwood Shankland, serving as the workshop facilitator, described the meeting format and agenda. At both workshops, Ms. Kathy McClure, from the Nanjemoy Visioning Committee provided a brief overview of the community's visioning process and preliminary findings.

Following the presentations, the public divided into small groups, each with a facilitator from BLM or DNR. The groups' tasks were to develop a set of issue statements and a list of opportunities for public land management. The groups wrote these statements on sheets of paper which were put on a large adhesive board. Mr. Shankland then facilitated a group discussion on how to group and prioritize the statements, the results of which are found in section 3.

The innovative meeting format proved to be particularly successful in gathering key management ideas early in the planning process. Participants were supportive of the approach, and several participants expressed the view that the meeting format was an improved method of public involvement, especially appropriate for a planning process. Overall, approximately 100 people attended the public workshops.

Abbreviations

ACEC..... AREA OF CRITICAL ENVIRONMENTAL CONCERN
BLM.....BUREAU OF LAND MANAGEMENT
CAA .....CLEAN AIR ACT
CEQ .....COUNCIL ON ENVIRONMENTAL QUALITY
CMP..... COORDINATED MANAGEMENT PLAN
CFR.....CODE OF FEDERAL REGULATIONS
DNR .....MARYLAND DEPARTMENT OF NATURAL RESOURCES
DOI.....DEPARTMENT OF THE INTERIOR
EA.....ENVIRONMENTAL ASSESSMENT
EPA ..... U.S. ENVIRONMENTAL PROTECTION AGENCY
FIDS..... FOREST INTERIOR DWELLING SPECIES
FLPMA..... FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1974, AS AMENDED
MMBF.....MILLION BOARD FEET
MMCF ..... MILLION CUBIC FEET
NAAQS .....NATIONAL AMBIENT AIR QUALITY STANDARDS
NEPA ..... NATIONAL ENVIRONMENTAL POLICY ACT OF 1969
NHP..... NATURAL HERITAGE PROGRAM
NHPA.....NATIONAL HISTORIC PRESERVATION ACT OF 1966, AS AMENDED
ROW .....RIGHT–OF-WAY
OHV.....OFF HIGHWAY VEHICLE
ROS.....RECREATION OPPRTUNITY SPECTRUM
SHPO .....STATE HISTORIC PRESERVATION OFFICE/OFFICER
TCF ..... THE CONSERVATION FUND
TNC..... THE NATURE CONSERVANCY
USC ..... UNITED STATES CODE
VRM..... VISUAL RESOURCE MANAGEMENT

Glossary

A

Acquired land. Lands in Federal ownership, which were obtained by the Government through purchase, condemnation, gift, or by exchange.

Administrative facilities. Cabins, campgrounds, and shelters for recreation.

Administrative site. Lands used as headquarters or administrative facility by a Federal agency.

Ambient air quality standard. The prescribed level of air pollutants that cannot be exceeded legally during a specified time within a specified geographical area.

B

BLM. Bureau of Land Management, US Department of the Interior.

C

CFR. Code of Federal Regulations.

Clearance. Cultural resources documenting that the requirements of 36 CFR 800 have been fully met for each undertaking.

Critical habitat. Specific areas designated as critical by the Secretary of Interior or Commerce for the survival and recovery of species listed as threatened or endangered pursuant to the Endangered Species Act of 1973, as amended.

Cultural resources. The physical remains of districts, sites, structures, buildings, networks, events, or objects used by humans in the past. They may be historic, prehistoric, architectural, or archival in nature. Heritage resources are non-renewable aspects of our national heritage.

Cumulative effects. See Effects.

D

Day-use facilities. Recreation facilities with no overnight camping available.

Demographic. Pertaining to the study of the characteristics of populations, such as size, growth, density, distribution, and vital statistics.

Developed recreation site. Relatively small, distinctly defined area where facilities are provided for concentrated public use, e.g., campgrounds, picnic areas, visitor center.

E

Easement. An interest or right in land owned by another that entitles its holder to a specific limited use.

Ecosystem. A complete, interacting system of organisms considered together with their environment.

Edge effect. The effect of adjoining vegetative communities on the population structure along the margin, which provides for greater numbers of species and higher population densities than either adjoining community. Edge may also result in negative effects, since habitat along the edge is different than within the patch, reducing the effective area of the habitat patch.

Effects. Includes the following: Direct: Results of an action occurring when and where that action takes place. Indirect: Results of an action occurring at a location other than where the action takes place and/or later in time, but in the reasonably foreseeable future. Cumulative: Results of collective past, present, and reasonably foreseeable future actions.

Endangered species. Any species of animal or plant that is in danger of extinction throughout all or a significant portion of its range. Plant or animal species identified and defined in accordance with the Endangered Species Act and published in the Federal Register.

Environmental analysis. An analysis of alternative actions and their predictable short- and long-term environmental effects, incorporating the physical, biological, economic, social and environmental design arts and their interactions.

Estuary. An ecological system at the mouth of a stream where fresh water and salt water mix, and where salt marshes and intertidal mudflats are present. The landward extent of an estuary is the limit of salt-intolerant vegetation, and the seaward extent is a stream's delta at mean low water.

F

FLPMA. Federal Land Policy and Management Act of 1976.

Fragmentation. An element of biological diversity that describes the natural condition of habitats in terms of the size of discrete habitat blocks or patches, their distribution, the extent to which they are interconnected, and the effects of management on these natural conditions.

G

Goal. A concise statement that describes a desired future condition normally expressed in broad, general terms that are timeless, in that there is no specific date by which the goal is to be achieved.

Groundwater. Water within the earth that supplies wells and springs. Specifically, water in the zone of saturation where all openings in soils and rocks are filled; the upper surface level forms the water table

H

Habitat. The sum total of environmental conditions of a specific place occupied by a wildlife or plant species or a population of each species.

Historic property. Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places. The term includes artifacts, records, and remains that are related to and located within such properties.

I

Implementation plans. Interdisciplinary plans and environmental assessments that analyze specific on the ground projects authorized by higher level land use plans such as the Coordinated Management Plan.

Implementation projects. On-the-ground projects to meet land management objectives (i.e., soil improvement projects, timber harvest, prescribed fire etc.).

Irretrievable commitments. Applies to losses of production or use of renewable natural resources for a period of time.

Issue. A point, matter, or section of public discussion or interest to be addressed or decided.

L

Land use prescriptions. Specific management direction applied to a defined area of land to attain multiple use and other goals and objectives.

Lease. An authorization (usually long-term) to possess and use public lands or minerals for a fixed period of time.

M

Management concern. An issue, problem or a condition which constrains the range of management practices identified by the Forest Service in the planning process.

Management direction. A statement of multiple-use and other goals and objectives, the associated land use prescriptions, and standards and guidelines for attaining them.

Management practices. The activities applied to a defined area of land to attain multiple-use and other goals and objectives.

Management prescription. Management practices and intensity selected and scheduled for application on a specific area (e.g., a land use designation) to attain multiple-use and other goals and objectives.

Memorandum of Understanding (MOU). An agreement between agencies resulting from consultation between agencies that states specific measures the agencies will follow to accomplish a large or complex project. A memorandum of understanding is not a fund obligating document.

Mitigation. Actions that serve to avoid or minimize impacts from Federal actions.

Monitoring. Gathering information and observing results of management activities to provide a bass for the periodic evaluation of the plan.

Motorized recreation. Recreation activities involving motorized methods for access and transport or in support of an activity. Examples are ATV/OHV use, etc.

MOU. Memorandum of Understanding.

Multiple-aged stands. An intermediate form of stand structure between even- and uneven-aged stands. These stands generally have two or three distinct tree canopy levels occurring within a single stand.

N

National Register of Historic Places. A listing of cultural resources of national, State, or local significance, maintained by the Department of the Interior, National Park Service.

No Action Alternative. The most likely condition expected to exist in the future if current management direction were to continue unchanged.

O

Objectives. The precise steps to be taken and the resources to be used in achieving goals.

Off-Highway Vehicle (OHV). Any vehicle which is restricted by law from operating on public roads for general motor vehicle traffic. Includes motorbikes, minibikes, trailbikes, snowmobiles, dune buggies, all-terrain vehicles, and four-wheel drive, high clearance vehicles. Sometimes referred to as Off-Road Vehicle or "ORV"; or All Terrain Vehicle (ATV).

ORV. See Off-Highway Vehicle.

P

Palustrine wetland. Includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 percent.

Parts per million (PPM). A measurement of concentration indicating the quantity of a substance per unit volume of a solution.

Plant association. Climax forest plant community type representing the endpoint of succession.

Plant communities. An collection of plants that, in general, occur together on similar site conditions.

Prescribed fire. A fire burning under planned conditions to accomplish specific land and resource objectives.

Prevention of Significant Deterioration (PSD). The process incorporated in the Clean Air Act which requires emission limitations for certain new or modified source.

R

Recreation Opportunity Spectrum (ROS). A system for planning and managing recreation resources that categorizes recreation opportunities into eight classes. Each class is defined in terms of the degree to which it satisfies certain recreation experience needs based on the extent to which the natural environment has been modified, the type of facilities provided, the degree of outdoor skills needed to enjoy the area and the relative density of recreation use.

Responsible official. The BLM employee who has the legal authority to make a specific decision.

Riparian area. The area including a stream channel, lake or estuary bed, the water itself, and the plants that grow in the water and on the land next to the water.

Riparian corridor. The floodplain and associated riparian soils, vegetation, and wetlands.

Rural development. The management of human, natural, technical, and financial resources needed to improve living conditions, provide employment opportunities, enrich the cultural life, and enhance the environment of rural America.

S

Scoping. Determination of the significant issues to be addressed in an environmental impact statement.

Sensitive species. Plant or animal species, which are susceptible or vulnerable to habitat alterations or management activities resulting in a viability concern for the species long-term persistence. Sensitive species may be those species under consideration for official listing as endangered or threatened species, that are on an official State list, or that are recognized by the Regional Forester as needing special consideration to assure viable populations and to prevent their being placed on Federal or State lists.

SHPO. See State Historic Preservation Officer.

Special use permit. Permits and granting of easements (excluding road permits and highway easements) authorizing the occupancy and use of land.

Stand. A group of trees occupying a specific area and sufficiently uniform in composition, age arrangement, and condition as to be distinguishable from the trees in adjoining areas.

State Historic Preservation Officer (SHPO). The official appointed or designated pursuant to Section 101(b)(1) of the National Historic Preservation Act of 1966, as amended, to administer the State Historic Preservation Program.

Suppression. The act of extinguishing or confining a fire.

T

Thinning. The practice of removing some of the trees in a stand so that the remaining trees will grow faster due to reduced competition for nutrients, water, and sunlight. Thinning may also be done to change the characteristics of a stand for wildlife or other purposes.

Threatened species. A plant or animal species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Threatened species are identified and defined in accordance with the Endangered Species Act of 1973.

Threshold. The point or level of activity beyond which an undesirable set of responses begins to take place within a given resource system.

U

Upland. Not immediately adjacent to a stream.

Utility corridor. Corridors for transmission lines, cables, pipelines, and major highways.

V

Visual Resource Management (VRM). Visual resource management and VRM classes which describe the level of change from natural scenery from human caused effects.

W

Water table. The upper surface of the ground water or that level below which the soil is saturated with water.

Well-drained soils. Water is removed from the soil readily, but not rapidly.

Wetlands. Areas that are inundated by surface or ground water with a frequency sufficient, under normal circumstances, to support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include peatlands, muskegs, marshes, bogs, sloughs, potholes, river overflows, mud flats, wet meadows, seeps, and springs.

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Appendix 1 – Memorandum of Understanding

MEMORANDUM OF UNDERSTANDING
between
Bureau of Land Management
and
State of Maryland, Department of Natural Resources
and
Commissioners of Charles County, Maryland
and
The Conservation Fund

MOU # ES-930-01-02

Introduction

This Memorandum of Understanding (MOU) between the U.S. Department of the Interior (DOI), Bureau of Land Management (BLM), Eastern States; the State of Maryland, Department of Natural Resources (DNR); the Commissioners of Charles County, Maryland (Charles County); and The Conservation Fund establishes a framework for cooperation to facilitate acquisition of an area along the Potomac River in the State of Maryland known as Douglas Point for the enjoyment of future generations.

Background

Douglas Point contains approximately 9 miles of unspoiled coastline along the Potomac River. Existing along this coastline is a major tributary to the Chesapeake Bay, Mattawoman Creek, a renowned Heritage Area at Mallows Bay, and the historic Port Tobacco River. This area, consisting primarily of wetlands and forest, is recognized as one of the most outstanding ecologically valuable areas in the Chesapeake Bay region, and has great potential as a heritage tourism destination. This natural coastline provides critical habitat for migratory waterfowl in the mid-Atlantic states, as well as for nesting Bald Eagles, Great Blue Herons, and numerous other rare and endangered plant and animal species.

Purpose

The purpose of this MOU is to document the commitment to continuing cooperation among BLM, acting on behalf of the DOI; The Conservation Fund, DNR; and Charles County to establish a cooperative working partnership involving Douglas Point. All parties agree to develop a) a Land and Natural Resources Protection Initiative; b) a Planning Analysis Document; and (c) an interagency Management Plan for Douglas Point.

a) Land and Natural Resources Protection Initiative: BLM and the DNR will jointly negotiate funding for a land protection initiative for the 5,500 acres. When necessary, assistance will be provided by The Conservation Fund or other non-profit, independent organizations. This effort is intended to result in the eventual ownership or protection of all or some of these lands for future public benefit, as well as to promote community economic development through heritage tourism opportunities; and

b) Planning Analysis Document: The BLM, with the support and assistance of the DNR, Charles County, and other organizations as needed, will assume a lead role in developing a Planning Analysis for Douglas Point. The Planning Analysis will be developed through consultation and coordination with the public and interested stakeholders. The document will address 1) options for management of the Douglas Point land; 2) criteria for evaluating options; 3) possible uses for the land; and 4) consideration of the area's natural, cultural, and recreational resources, including water access; and

c) Future Interagency Planning and Management: Through the Planning Analysis, the BLM, DNR, and Charles County will work cooperatively to define and identify specific proposed activities, interjurisdictional management responsibilities, funding needs and funding sources through the development of a Management Plan. It is understood that Charles County has primary interest in developing and promoting maritime heritage and eco-tourism opportunities at the Wilson property site, as well as in managing a new recreational public water access to the Potomac River at the site. Charles County envisions participation in certain targeted promotional, marketing, and operational aspects recommended in the Management Plan. The final management roles and details for all parties will be resolved and agreed to in the Management Plan.

Funding

Nothing in the MOU shall obligate any party to expend, contract for or otherwise commit to payments of money. BLM's, DNR's, and Charles County's performance of its responsibilities under this MOU is subject to the availability of appropriated funds for land acquisition and\or future management of the site.

Conditions

Upon mutual agreement, the parties recognize that each party may enter into similar agreement with other entities. The parties agree that this MOU does not constitute an endorsement of the other parties or their products, services, or opinions.

Any press release, articles, advertisements or other public statements that refer to BLM, DNR, or Charles Count, or its respective employees or activities under this MOU, shall be developed in collaboration and mutually agreed upon by the parties before publication.

BLM, DNR, and Charles County are committed to providing recreational opportunities to peoples of all races, economic backgrounds, and physical abilities.

Scope and Limitations

This MOU shall not be construed to grant, expand, create, or diminish any legally enforceable rights, benefits or trust responsibilities. The MOU does not preempt or modify any of DOI's, Charles County's, or the State of Maryland's statutory authorities.

Effective Date, Modification, Termination

This MOU becomes effective when all parties have signed it.

This MOU may be modified by written agreement of all parties. Modifications may become effective immediately or at a give date as determined by the parties, if all parties agree to the modification.

Any party may suspend or terminate its own participation upon 60 days written notice to the other parties.

Signatures

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES

/s/ Sarah J. Taylor-Rodgers
Sarah J. Taylor-Rodgers, Secretary
Date: 12-13-00

COMMISSIONERS OF
CHARLES COUNTY, MD

/s/ Murray D. Levy
Murray D. Levy, President
Date: 11-01-00

U. S. DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT
/s/ Gayle F. Gordon

Gayle F. Gordon, Eastern States, State Director
Date: 12-13-00

THE CONSERVATION FUND

/s/ David M. Sutherland
David M. Sutherland, Sr. Vice President
Real Estate
Date: 12-13-00

Appendix 2 – Federal Paleontology Program Policy

The Bureau of Land Management (BLM) is charged with retaining the public lands in Federal ownership, planning for their future use through systematic inventory, protecting the quality of scientific and other values, and managing lands for multiple use and sustained yield. In carrying out this mission, the BLM manages fossil resources for their scientific, educational and recreational values in collaboration with museums and other groups. The great majority of the fossil record - invertebrates, plants and petrified wood - is available for the enjoyment of hobbyists, school groups and the general public. A permit is required for the collection of scientifically important fossils such as vertebrates, and such specimens and data must be placed in repositories where they remain the property of all Americans. The BLM supports the development of exhibits featuring federally associated collections, and the display of exhibit-quality specimens in local museums.

Because the BLM administers some 264 million acres of federally owned surface, detailed inventories to locate fossils are impractical except on a case-by-case basis. However, as part of the National Environmental Policy Act (NEPA) process, the BLM considers the impact to fossil resources when evaluating surface-disturbing projects such as pipelines or roads, and in the development of realty exchanges. The BLM maintains a professional staff of paleontologists who work with those from other land managing agencies to develop and provide training and to coordinate other interagency functions. Law enforcement officers in critical areas are available to work with paleontologists in preventing damage and loss of this resource.[2]

[2] Fossils On Federal And Indian Lands, Report of the Secretary of the Interior May 2000 published at http://www.doi.gov/fossil/fossilreport.htm

Appendix 3 – Geologic Time Scale

Table 6. Geologic Time Scale

GEOLOGIC TIME					
Eon	Era	Periods & systems	Epochs & series	Beginning of interval*	Biological forms
PHANEROZOIC	Cenozoic	*Quaternary*	Holocene	0.01	
			Pleistocene	1.6	Earliest humans
		Tertiary	Pliocene	5	
			Miocene	24	Earliest hominids
			Oligocene	37	
			Eocene	58	Earliest grasses
			Paleocene	65	Earliest large mammals
	Cretaceous-Tertiary boundary (65 million years ago): extinction of dinosaurs				
	Mesozoic	*Cretaceous*	Upper	98	
			Lower	144	Earliest flowering plants; dinosaurs in ascendance
		Jurassic		208	Earliest birds & mammals
		Triassic		245	Age of dinosaurs begins
	Paleozoic	*Permian*		286	
		Carboniferous			
		Pennsylvanian		320	Earliest reptiles
		Mississippian		360	Earliest winged insects
		Devonian		408	Earliest vascular plants (ferns & mosses)
		Silurian		438	Earliest land plants & insects
		Ordovician		505	Earliest corals
		Cambrian		570	Earliest fish
PROTEROZOIC	Precambrian			2500	Earliest colonial algae & soft-bodied invertebrates
ARCHEAN				4000	Life appears; earliest algae & primitive bacteria

*In millions of years before the present

Appendix 4 – Cultural Resources

This appendix describes the archaeological context of the cultural resources found in the planning area, as well as provides an overview of prehistoric and historic resources of the region.

Archaeological Context and History of Investigations

Class I Overview and cultural resources management recommendations for the planning area

Previous archaeological and historical investigations within and around Douglas Point and the associated planning area have documented numerous historically significant archaeological sites and historical properties. This report discusses previous archaeological investigations (surveys) within the planning area, and outlines the current knowledge of known cultural resources sites and features located within the Area. One purpose of this overview is to provide a baseline description of known or suspected archaeological and historical properties existing within the planning area. This information will also be used to determine the potential for significant (unrecorded) historical properties located throughout the planning area and for further discussion of planned management activities within the tract. The direction of this narrative follows, in general, the Washington Office recommendations for Cultural Resources Considerations in Resource Management Plans.

The Maryland Historical Trust (MHT), Office of Preservation Services, graciously provided the archival and literature data consulted in this overview. The information is derived from the files and records maintained by the MHT, including cultural resource management (CRM) reports filed in compliance with the National Historic Preservation Act, and relative State of Maryland Statutes. Professional publications are also referenced, as appropriate. The Maryland Historical Trust will provide additional documentation relative to the management of submerged (underwater) historical features, such as those at Mallows Bay. The State of Maryland maintains ownership and preservation of submerged cultural resources within the Potomac River, and can better describe the historical integrity, and management of these resources.

Additional information relative to the identification and preservation of historic properties throughout Charles County can be found in the *Charles County Comprehensive Management Plan* (June 1997), as well as with the Maryland Department of Natural Resources, Southern Maryland Division. Another useful source of information is a rather comprehensive cultural resources overview of the U.S. Naval Surface Warfare Center at Indian Head, MD, by Goodwin and Associates, Inc. (1998). This report provides a synthesis of existing archaeological and historical properties within the naval station unit, and summarizes the cultural-history of the Lower Potomac River region.

Previous Cultural Resources Investigations within the Douglas Point Tract

Few professionally guided cultural resources surveys have been conducted in/around the planning area. Within the broader planning area, the Douglas Point tract has been the focus of a few investigations – owing primarily to State-mandated compliance projects in advance of proposed mining or power development by Potomac Energy Power Company (PEPCO). Initial archaeological investigations within the Lower Potomac area were conducted by noted amateur archaeologist, and collector, R.G. Slattery in the 1930's (MHT: Widewater Quad File 4). Slattery

notes collections taken from the extreme southern portion of tract, likely within the property currently owned/managed by the Maryland DNR, at Purse State Park. No specific references to the nature of these collections or the archaeological context is noted by Slattery, especially within the BLM, Douglas Point tract.

In 1973, PEPCO commissioned Dr. Charles McNett of American University to conduct a cultural resources survey of its Douglas Point holdings. The results of this survey are described in McNett and Hranicky (1973: MHT reference number 5-13/11). No sites and/or significant cultural features were identified during this inventory.
The McNett survey methods included meandering pedestrian reconnaissance along the exposed shoreline of the Potomac River and along various roadbeds and creek banks. Sporadic shovel testing was conducted, though the exact provenience, number and placement of individual Shovel Test Units (STU) is not reported. The field investigators also excavated 22 "major test pits," which measured 5 feet square and 3 feet deep." The major test pits were placed in "favorable" locations across the Douglas Point tract. A field sketch map of the major pits indicates they were concentrated within an area previously identified by a local amateur archaeologist/collector (Slattery), in the SE portion of the tract (Map included as Attachment…). Based on their survey, McNett et al. conclude the Douglas Point area is relatively void of significant archaeological materials, and " the possibility of any undiscovered remains appears very remote (McNett et al., 1973)."

> *It is our (BLM) opinion that the McNett and Hranicky survey (1973) does not meet the professional standards for cultural resources inventory as outlined in the BLM Handbook and Manual (8100 series). The McNett survey also failed to record the obvious historic period site (18CH208) – the Mt. Pleasant/Chiles Homestead, which is visible on the surface today. In our opinion, the intensity of survey does not adequately cover the tract. Thus, this office does not accept their conclusion that the area is void of significant archaeological materials, based on the inadequacy of this survey.*

In 2001, a Phase I and II cultural resources inventory and evaluation was performed in a small portion of the Douglas Point tract by Joseph Hopkins Associates, Inc.. This inventory and evaluation was conducted in advance of a proposal by Maryland Rock to quarry sand and gravel within their landholdings at Douglas Point, and to construct a loading facility and boat landing along the shores of the Potomac River. Though the proposed project was dropped by Maryland Rock Inc. upon the sale of the property to the BLM, the draft (final) report of archaeological investigations was filed with the MHT.

The Hopkins Associates (2001) survey considered an area of approximately 34 acres in their Phase I investigations, though the actual field inspection covered approximately 12 acres of the total project area. The field methods included excavation of 134 Shovel Test Pits (STPs) placed at 20-meter intervals across the upland landform – in the area proposed for direct impacts. Areas excluded from shovel testing include steep slopes, delineated wetlands and active streambeds. Individual shovel test units were excavated to sterile subsoil, and passed through a ¼" hardware mesh screen. According to Harris et al. (2001: 5), the STPs were excavated by natural strata to sterile subsoil, which varied in depth to approximately 30-50 cm below surface. The Phase I inventory indicated the presence of a sparse scatter of prehistoric lithic artifacts (n=11) across the project area. One hundred and fifty six (156) historic period artifacts were recovered within a confined locus within the project area. This area, subsequently referred to as the "Blue Banks Site," (18CH696) was subjected to further (phase II) testing by Hopkins Associates.

It is our opinion the Hopkins Associates, Inc. survey and evaluation of approximately twelve acres within the Douglas Point tract appear to meet Department of Interior, Bureau of Land Management, standards for archaeological inventory and evaluation.

In 1974, J. Richard Rivoire of the Maryland Historical Trust conducted a comprehensive site report, line drawings and historical context for the Mt. Pleasant/Chiles House (18CH208). Rivoire's 1974 report, titled: *Mt. Pleasant: A Representative Example of Eighteenth Century Domestic Architecture of the tidewater Maryland Region*, adequately documents the historical and architectural context of the Chiles House. Rivoire borrows from initial investigations conducted at the site by Dr. H. Chanlee Forman in 1956, published in his book titled: *Tidewater Maryland Architecture and Gardens*. Using Forman's observations as a guide, Rivoire utilized field investigations, archival documentation and analysis of the structural debris, to reconstruct the structure from it's beginning (circa 1780's) to the time of its abandonment in the early 20th Century.
Rivoire encouraged PEPCO to consider having the Chiles House restored following documentation. He also encouraged further archaeological testing and interpretation at the site. Unfortunately, it appears that many of the structural features were removed by PEPCO following the completion of the 1974 report.

It is our opinion that Rivoire's report of the Chiles House meets professional standards and has possibly met the standards of the Historic Architectural Building Survey (HABS). Rivoire's report is a valuable contribution to understanding this interesting historical property, and has documented the historical and architectural significance of this property. It bears mention that the site has not been nominated to the NRHP, thus its true archaeological and historical significance has not been formally evaluated relative to the NRHP criteria for historical significance, though the site (itself) is likely eligible for listing.

Management Goals and Actions for Archaeological and Historic Properties (Sites) Identified within the Douglas Point Tract

Within the Douglas Point (BLM) tract, three archaeological and historical sites have been identified: Sites 18CH193, 18CH208 (the Mt. Pleasant/Chiles House) and 18CH696 – the "Blue Banks" site. Site 18CH193 is described, based on the meager information from the site form, as Unknown Prehistoric in age and cultural affiliation, while sites 18CH208 and 696 represent early American residential properties. Each site represents an unique record of historic land uses within the Douglas Point tract, and each requires additional testing to determine the level of historical and archaeological significance. The BLM adheres to the following management goals that pertain to all cultural and traditional properties located within the tract. With these goals in mind, each site is discussed individually, with specific management actions (recommendations) provided.

Pursuant to section 110 of the National Historic Preservation Act (NHPA), the Archaeological Resources Protection Act (ARPA; section 14(a)) and the Federal Land Policy Management Act (FLPMA; sections 103, 201, 202), the BLM's goal is to preserve and manage significant cultural and traditional resources for present and future generations.

The BLM will ensure that all authorizations for land and resource use will comply with Section 106 of the NHPA, and will identify/protect significant historical properties in the best interest of the public.

Site 18CH193

Site 18CH193 was initially reported by Wilkes-Thompson in 1976 and a site form filed with the MHT in 1986. Very sparse information about this site is contained in the MHT files. The description indicates that the site consists of a single quartz chunk and flake atop a pebble beach. Shell fragments and possible fossils are noted. No other information is reported for this site location. The site has not been formally evaluated for eligibility to the National Register of Historic Places.

Management Goals: Management Goals cannot be yet be assigned to this site, until such time a distinct cultural property is recorded and evaluated.

Management Recommendations: Site 18CH193 should be revisited intensively surveyed and, if identifiable archaeological materials are recovered, subjected to further evaluation. Further evaluation will determine if the site has historical (archaeological) significance – relative to the NRHP, and potential for future research, public interpretation or some other resource management value.

Pending further evaluation, Site 18CH193 should be protected and preserved in place, until a formal site management plan is completed. All potential ground disturbing activities should be avoided within proximity to the site location. Routine monitoring of the site should be conducted to ensure that archaeological and historical site integrity is not being compromised by human and/or natural disturbances.

Site 18CH208, Mt. Pleasant/Chiles house

The Mt. Pleasant/Chiles House is a thoroughly documented late 18th Century – early 20th Century historical site. Forman (1956), initially documented the architectural significance of the Chiles House in his publication – referenced above. Rivoire (1974) provides a comprehensive historical and architectural context for the Chiles House site.

In the "Introduction to the Architectural Analysis" in the report, Rivoire notes that the site was abandoned and decaying at the time of initial recordation by Forman in 1956. By 1972 the house was primarily in ruins, with only the two brick chimneys, two walls of the original structure and four partial walls of a later addition remaining upright. Upon completion of the architectural inventory (1974), most of the structural debris was removed from the site - with the exception of the brick chimneys, original structural foundation, and a portion of an early 19th Century addition on the main structure.

Management Goals: Site 18CH208 has been adequately recorded from an historical/Architectural perspective, though its' overall significance – relative to NRHP listing has yet to be determined. While the architectural context may be lost, the site should be further evaluated to determine its archaeological integrity and context. The site may contain important archaeological data to help better understand early American settlement patterns in the Tidewater Region, as well as the lifeways of small-scale domestic residences within the region during the late 19th Century. Once evaluated, the Chiles House site may provide a unique opportunity for public interpretation through a variety of cultural heritage opportunities.

Management Recommendations: Pending further evaluation, Site 18CH208 should be protected and preserved in place, until a formal site management plan is completed. All potential ground disturbing activities should be avoided within proximity to the site location. Routine monitoring

of the site should be conducted to ensure that archaeological and historical site integrity is not being compromised by human and/or natural disturbances. Archaeological Resources Protection Act (ARPA) signage should also be posted around the perimeter of this site. This signage will clearly specify the criminal penalties for disturbing archaeological sites of Federal properties.

Site 18CH696, the Blue Banks Site

Joseph Hopkins Associates tested the Blue Banks Site in 2001, as part of the Phase I and Phase II survey. Phase II testing was performed in and around a concentration of red bricks, encompassing an area of approximately 422 square meters. Initial Phase II testing of this site indicates that the site dates from the mid 18th Century into the mid 19th Century. The initial investigations revealed the presence of a frame-style dwelling, with a brick chimney and floor. Additional domestic materials were also recovered, including: cut and hand wrought nails, diagnostic ceramic serviceware (pearlware, redware, whiteware), Kaolin pipe fragments, dark olive bottle sherds bricks, and iron. At the time of recordation, the site was physically intact, undisturbed, and covers approximately 3½ acres in areal extent.

Management Goals: The Blue Banks site should be further evaluated to determine its overall eligibility for listing on the NRHP. Further testing can provide a better understanding of early American settlement patterns and lifeways within the Tidewater Region. Small domestic occupations of this type are underrepresented in the archaeological record, thus additional information about these sites can lend important information to our understanding of early American history. Further evaluation of this site could also lead to interesting cultural heritage opportunities for public interpretation/education within BLM administered properties in the Douglas Point tract.

Management Recommendations: Pending further evaluation, Site 18CH208 should be protected and preserved in place, until a formal site management plan is completed. All potential ground disturbing activities should be avoided within proximity to the site location. Routine monitoring of the site should be conducted to ensure that archaeological and historical site integrity is not being compromised by human and/or natural disturbances.

Table 7. Douglas Point Archaeological Site Management Summary Table

Site Number	NRHP Eligibility	BLM Management Goals	BLM Management Recommendations	Cultural Resources Use Allocation
18CH193	Unevaluated	Protect and preserve in place - pending further evaluation	Conduct a Phase I survey Further evaluation of significance, if site is discovered	Pending further evaluation. Possible Scientific Use
18CH208	Unevaluated/ Potentially Eligible	Protect and preserve in place - pending further evaluation	Further evaluation (phase II) Post Site Protection Signage (ARPA Signs)	Pending further evaluation – Possible Scientific Use Possible public use (Interpretation)

Site Number	NRHP Eligibility	BLM Management Goals	BLM Management Recommendations	Cultural Resources Use Allocation
18CH696	Unevaluated/ Potentially Eligible	Protect and preserve in place - pending further evaluation	Further evaluation (phase II) Post Site Protection Signage (ARPA Signs)	Pending further evaluation Possible Scientific Use Possible public use (Interpretation)

Archaeological and Historical Sensitivity of the Lower Potomac River Planning Area

The archaeological and historical significance of the Lower Potomac River planning area is prevalent within the Douglas Point tract, as well as throughout the entire study area. To the immediate north of Douglas Point, in and around Mallows Bay (Wilson Farm), a tremendous variety of archaeological and historical features are extremely well represented. As documented by Shomette (1994, #199), Mallows Bay – and the associated Wilson Farm – contains a continuous record of extremely significant prehistoric archaeological sites, early American settlement sites, Civil War encampments and one of the most unique underwater shipwreck assemblages in the United States. The Maryland DNR, with assistance from the BLM, should consider nominating this location as a National Register Historic District or, possibly, a National Historic Landmark.

Significant archaeological and historical sites also exist throughout the entire planning area. Large prehistoric village sites are known to exist along the shores of the Potomac River as well as along several of the major tributaries of the Potomac within the planning area. As the entire planning area encompasses the shoreline and immediate uplands of the Potomac River, it is sufficient to state that the archaeological potential (sensitivity) for the entire area is extremely high.

Prehistoric Native American archaeological sites have also been documented within the interior portions of the planning area, particularly around wetland margins and streams. Other types of archaeological sites, including, 17th Century (Contact Era) sites, early American settlements (Colonial Era) as well as later historic period sites, can also be expected to occur throughout the planning area. Given the relatively undeveloped nature of the planning area, the Lower Potomac River contains tremendous potential to provide important information to help understand the prehistory and history of cultures throughout the entire Chesapeake Bay Region.

Though very little professional archaeological survey and recordation has been conducted throughout the area, it is the opinion of the BLM that the entire planning area has a high potential for containing previously unrecorded archaeological and historical properties. Given the significant prehistoric occupations, as well as early historical events that have occurred throughout this region, the Lower Potomac River could be one of the most valuable areas for future archaeological research within the Chesapeake Bay region..

With such archaeological and historical intensity, the Lower Potomac River is ideally suited for developed, cultural heritage education (i.e. public interpretation). It is believed that the entire Planning Area, including Douglas Point, contains a continuous

sequence of human habitation and resulting land use – from the earliest (Paleo-Indian) occupants in North America through the modern historic period. Thus, the Lower Potomac River region may possibly hold some of the most significant archaeological and historical properties yet to be discovered and interpreted.

Current and Future Possibilities for Cultural Resource Management

As previously discussed, the Lower Potomac planning area contains a tremendous variety of archaeological and historical resources. While several significant cultural resources sites have been identified and recorded in the planning area, countless others remain undiscovered. The goals for further management of cultural resources throughout the planning area include preservation and protection of known archaeological and historical sites until further evaluation is conducted. Such evaluation can help determine the significance of individual cultural properties, the potential for further scientific research as well as the potential for on-site interpretation and heritage education. Within those properties managed by the BLM, each cultural property will be assessed individually, and will be assigned to the one of the following:

Cultural Resource Use Categories (from the BLM Manual 8110.42)

SCIENTIFIC USE

This category applies to any cultural property determined to be available for scientific or historical study using currently available research techniques, including methods that would result in the property's physical alteration or destruction. The category applies almost entirely to prehistoric and historic archaeological properties, where the method of use is generally archaeological excavation, controlled surface collection, and/or controlled recordation (data recovery). Recommendations to allocate individual properties to this use must be based on documentation of the kinds of data the property is thought to contain and the data's importance for pursuing specified research topics. Properties in this category need not be conserved in the face of a research or data recovery (mitigation) proposal that would make adequate and appropriate use of the property's research importance.

CONSERVATION FOR FUTURE USE

This category is reserved for any unusual cultural property, which, because of scarcity, a research potential that surpasses the current state of the art, singular historic importance, cultural importance, architectural interest, or comparable reasons, is not currently available for consideration as the subject of scientific or historical study that would result in its physical alteration. A cultural property included in this category is deemed worthy of segregation from all other land or resource uses, including cultural resource uses, that would threaten the maintenance of its present condition or setting, as pertinent, and will remain in this use category until specified provisions are met in the future.

TRADITIONAL USE

This category is to be applied to any cultural resource known to be perceived by a specified social and/or cultural group as important in maintaining the cultural identity, heritage, or well-being of the group. Cultural properties assigned to this category are to be managed in ways that recognize the importance ascribed to them and seek to accommodate their continuing traditional use.

PUBLIC USE

This category may be applied to any cultural property found to be appropriate for use as an interpretive exhibit in place, or for related educational and recreational uses by members of the general public. The category may also be applied to buildings suitable for continued use or adaptive use, for example as staff housing or administrative facilities at a visitor contact or interpretive site, or as shelter along a cross-country ski trail.

EXPERIMENTAL USE

This category may be applied to a cultural property judged well-suited for controlled experimental study, to be conducted by BLM or others concerned with the techniques of managing cultural properties, which would result in the property's alteration, possibly including loss of integrity and destruction of physical elements. Committing cultural properties or the data they contain to loss must be justified in terms of specific information that would be gained and how it would aid in the management of other cultural properties. Experimental study should aim toward understanding the kinds and rates of natural or human-caused deterioration, testing the effectiveness of protection measures, or developing new research or interpretation methods and similar kinds of practical management information. It should not be applied to cultural properties with strong research potential, traditional cultural importance, or good public use potential, if it would significantly diminish those uses.

DISCHARGED FROM MANAGEMENT

This category is assigned to cultural properties that have no remaining identifiable use. Most often these are prehistoric and historic archaeological properties, such as small surface scatters of artifacts or debris, whose limited research potential is effectively exhausted as soon as they have been documented. Also, more complex archaeological properties that have had their salient information collected and preserved through mitigation or research may be discharged from management, as should cultural properties destroyed by any natural event or human activity. Properties discharged from management remain in the inventory, but they are removed from further management attention and do not constrain other land uses. Particular classes of unrecorded cultural properties may be named and described in advance as dischargeable upon documentation, but specific cultural properties must be inspected in the field and recorded before they may be discharged from management.

Appendix 5 – Hazardous Materials Report

The following summarizes the various hazardous materials investigations conducted on the Douglas Point and Maryland Point tracts.

Douglas Point

Polychlorinated Biphenyls (PCBs)

The on-site investigation identified suspect Polychlorinated Biphenyls (PCB) containing material (ESA, Inc. 2001). A visual observation for equipment and components with a potential to contain dielectric fluid, an insulating oil, with concentrations of PCBs in excess of fifty parts per million (50 ppm) was conducted. The following was observed: the Douglas Point property is not currently supplied with overhead electric service from any mounted electrical transformers. One downed overhead electrical transformer attached to the pole was identified on the southern parcel east of Maryland 224. The transformer is dismantled and appears to be dry. No evidence of stained leaves or residue on the soil surface existed. The location of the overhead transformers was identified as upland with no apparent rills or pathways of surface water dissecting the immediate location. [It is recommended all three parts of the transformer be removed, packaged by a certified PCB waste hauler and shipped for disposal to an approval disposal facility

Regulated Asbestos-Containing Materials (RACM)

During the on-site investigation, ESA, Inc., did not observe suspect asbestos containing materials in the form of non-friable rolled siding. No testing of the suspect material was conducted.. All structural improvements identified during the August 29, 2001, on-site walk revealed suspect Category-I; non-friable asbestos materials in the form of rolled asphalt siding on the Douglas Point property. Suspect asbestos-containing materials were not sampled at the time of the assessment. Should demolition of the structure occur, it is recommended demolition should be done according to a designated Operations and Maintenance (O&M) in accordance with federal, State and local guidelines. Non-friable materials have historically been shown neither to be a significant environmental threat nor a lender foreclosure liability.

Lead-Containing Paint

There was no suspect lead-containing paint material observed on the Douglas Point property. The project site has no structural improvements that are suspect to contain lead. All structural improvements identified during the August 29, 2001, on-site walk were degraded beyond the painted surface. During the site assessment, no evidence of lead containing paint or other products were observed. No further action or investigation regarding lead containing hazards on the Douglas Point property is required.

Radon Gas

A search of the Environmental Protection Agency, Region III, Air Protection Division database revealed on average within this area of the county , 0-10 percent of indoor readings as above the

recommended 4 picocuries per liter. It is recommended no further action is required with regard to radon on Douglas Point property.

Waste Dumping on Property

Extensive illegal dumping has historically occurred on this site. The majority is concentrated along Maryland 224 on the larger southern parcel and on the perimeter of the two smaller parcels. It is recommended the removal of illegally dumped household trash and debris to a State certified waste facility. Additional action may be necessary to discourage future disposal of debris on-site such as signage and four foot chain link fencing behind the guardrail along Maryland Route 224. Dumping of household trash and debris has historically been shown neither to be a significant environmental threat nor a lender foreclosure liability.

Facility Storage Tanks (Above and Below Ground)

Visual observations for man ways, vent pipe and fill connections did not identify any surface connections which would indicate the existence of an underground storage tank other than in the County leased radio tower area. Review of currently installed mechanical equipment, and historical information concerning mechanical equipment, identified no alternative fuel sources (i.e., electric and natural gas).

Adjacent Properties

The general vicinity of the Douglas Point property consists of forested, low density residential properties, secondary roads, and a few agricultural fields. The southern parcel is bordered to the west by the Potomac River. No further action or investigation is required with regard to potential environmental risks to the Douglas Point property from identified adjacent properties.

Hazardous Materials at Maryland Point Observatory:

Bhate Environmental Associate, Inc (BEA 1998), performed PHASE I-ESA on February 3, 1998 on this property; the findings are listed below:

Aboveground Storage Tanks (ASTs)

During BEA site's visit, seven (7) ASTs were observed at the site; six (6) 275 gallon capacity and one (1) 1,000 gallon capacity. These ASTs were not in use and believed to be empty. Based on the available information the 275-gallon capacity tanks were used for the storage of heating oil and the 1,000 gallon capacity AST was used for the storage of diesel fuel for emergencies generator. No oil stains or stressed vegetation in immediate vicinity were observed. It is recommended that State laws and regulations should decommission all these ASTs.

Asbestos Containing Materials (ACM)

The subject site consists of nine (9) buildings all constructed between 1956 and 1961. Due to the age of these buildings, there is a potential of ACM may be found in the buildings. Hygienetics Inc., performed an Asbestos Survey and Hazard Assessment of these buildings during November 1989. Buildings # 1, 3, 7, 8, 13, control building for 84-foot antenna and Office Trailer have 9"x 9" floor tiles which contain red vinyl asbestos were found throughout these buildings.

Mastics/adhesives were found under these tiles tested positive for asbestos. All buildings if not required for use should be removed.

Polychlorinated Biphenyls (PCBs)

Four (4) pole-mounted transformers were observed at the subject site. No obvious leaking or staining was noted in association with these transformers. Presently, the Southern Maryland Electric Cooperative (SMECO) owns, operates, and maintains these transformers. On May 13, 2002, a letter received from SMECO, indicated these transformers should be considered as PCB containing materials until the oil from each unit is sampled and tested . SMECO is responsible for spills at the subject site and should be notified White Plains District in case of spills or staining at 1-888-440-3311and/or 301-645-3636.

Lead Based Paint

The subject site consists of nine (9) buildings all constructed between 1956 and 1961. Due to the age of these structures, there is a potential that painted surfaces consisting of lead based paint may be found in the buildings. A lead based paint investigations may be conducted in order to identify and locate lead based surfaces.

Adjacent Properties

From 1956 until approximately 1971, about 200 acres of land surrounding the subject property was leased by the Naval Research Laboratory to provide a buffer zone for the Maryland Point Observatory. Currently that area consists of wooded land. As early as 1930, the subject area was part of a cherry farm and in the recent past used to harvest timber. There were no readily apparent indications of uses of any of the adjoining properties for manufacturing or industrial purposes.

Structures

The site contains seven structures such as a frame hoist, 84-foot antenna base, generator fuel tank, antenna control house, office, antenna pedestal and apron, and staging apron/84; antenna/C. If not needed these structure should be removed from the site. The facility includes two fully steerable parabolic telescope antennas, 84-feet and 85-feet in size. If not needed these should be removed from the site.

PCBs

As result of CASHE audit by Aarcher, Inc. additional information follows for Maryland Point:

> Fluorescent light fixtures are located in several buildings. Due to the age of the structures the light ballasts probably contain PCBs. EPA regulations require all ballasts and capacitors manufactured after 1979 to be marked "NO PCB". Therefore, if ballasts is not labeled "NO PCB", it should be assumed to contain PCBs. A small-disconnected GE transformer is stored on the floor of building 13, an ESCO transformer in building 8 appears to be oil-filled. The right side of the transformer has a drain plug in it. The floor

on the right side of has oil spilled on it. PCBs are known carcinogens and are regulated as a hazardous waste in Maryland (Aarcher, Inc., 2002)

Abandoned Buildings

The building have numerous deficiencies. The roof to one structure is leaking and falling in. Another building's floor is collapsing. Most of the buildings have openings and damage to the walls and are infested with mice.

Abandoned Air Conditioners

Over time, when stored outdoors, the rubber seals on a refrigerator will dry and the Freon or CFC will leak out. The refrigerants must be recovered as soon as appliance or device containing CFC misplaced on long-term storage or is no longer needed. Venting Freon into the environment has been prohibited since June 14, 1993. The regulations also especially prohibit the disposal of nay appliance if it is known to contain CFCs. Therefore, the air conditioners at the site must be removed and their Freon recovered prior to demolition of any structure with its own air conditioning unit. The local landfill may have a certified CFC recovery.

Electric Power Hazards

Electric Power is still provided to at least one of the radio telescopes and most of the buildings. Exposed and energized wiring was found in several structures. This exposed wiring poses an electrocution hazard

Wilson Farm

No Phase I environmental site assessment regarding the presence of toxic and hazardous materials is available at this time. No known toxic or hazardous substances are known to exist on the property.

Purse State Park

No Phase I environmental site assessment regarding the presence of toxic and hazardous materials is available at this time. No known toxic or hazardous substances are known to exist on the property.

Appendix 6 – Soil Associations

This appendix discusses the soils specific to the State and Federal tracts and generally throughout the planning area.

Table 8. Characteristics of Soils in Planning Area.

Soil Series	Soil Types Include [1/]	Characteristics
BELTSVILLE SERIES	Beltsville Silt Loam Bibb Silt Loam	most extensive soils in the county
		nearly level to moderately sloping deep and well drained
		strongly acidic and slowly permeable, and have a fragipan at a depth generally less than 30"
		formed in recently deposited alluvium
		easy to work
		moderately permeable
Elkton Series	Elkton Silt Loam	nearly level, poorly drained
		contain fine subsoil; slowly to very slowly permeable
		formed in old deposits of very clayey marine and alluvial sediments
		high water table; wet for long periods
		Poor drainage and high water table severely limit most non-farm lands
Exum Series	Exum Silt Loam Exum Clay Loam Exum-Beltsville Loam	gently sloping to moderately sloping deep, moderately well drained upland soils
		formed in old silty deposits containing moderate amounts of clay and small amounts of sand
		high available moisture capacity, but are low in natural content of plant nutrients
		Wetness, slope, and erosion chiefly limit use of these soils
Luka Series	Luka Silt Loam	nearly level to gently sloping, deep, moderately well-drained soil on floodplains and in upland depressions
		formed in recently deposited alluvium washed mainly from uplands
		easy to work at favorable moisture content
		permeability moderate to moderately slow
		high water table late in spring, high available moisture capacity
		suited to cultivated crops, pasture, and woodland
Keyport Series	Keyport Silt Loam	moderately well drained nearly level to moderately sloping
		chiefly at low elevations near major rivers
		high available moisture capacity and low permeability
		not well suited to deep-rooted crops that require good drainage and soil aeration
Leonardtown Series	Leonardtown Silt Loam	shallow or moderately deep, poorly drained, nearly level soils that have a fragipan
		formed in old silty marine deposits
Mattappex Series		level to moderately sloping, deep, moderately, well drained soils
		chiefly in low-lying areas bordering major rivers
		easy to work, limited by the presence of high water table in winter and spring

Soil Series	Soil Types Include [1/]	Characteristics
		moderately low permeability
		intensively farmed seasonal wetness and impeded drainage limit non-farm uses
Sassafras Series	Sassafras Sandy Loam	nearly level to moderately sloping, deep, well drained soils on uplands
		formed in loose deposits of loamy and sandy sediment of marine and alluvial origin
		easy to work
		moderate available moisture capacity and are moderately permeable
		slope and erosion hazards limit farming and non-farm uses
Tidal Marsh		soil material ranges from sand to clay; with some places it is peaty and mucky
Wickham Series	Wickham Fine Sandy Loam	gently sloping to moderately sloping, deep, well drained soils on ancient terraces of the Potomac River
		formed in old loamy deposits containing mica, other weatherable minerals and small amounts of silt
		high available moisture capacity and are moderately permeable

Notes:
[1/] Refer to text for details.

Soils On State and Federally-Owned Parcels in Planning Area

Wilson Farm

Most of Wilson Farm contains Exum series soils. Also found near the entrance road is Beltsville Silt Loam (BIB2) that is subject to moderately erosion. KpA is found near the river and Tidal Marsh (Tm) soils are found surrounding in main drainage areas. Other areas of the property include Gravelly Land (GvE), and Eroded Land (ErE), which can be highly erodable and have steep slopes.

Douglas Point

Twenty-four soil types have been identified for the Douglas Point tract (USDA 1974). The soil types include the Beltsville-Exum-Wickham (BEW) association and the Evesboro-Keyport-Elkton (EKE) association. These soils are level to moderate in slope and run the gamut from poorly drained loams to excessively drained sandy soils depending on location in the landscape. Problem areas may include erodible soils on steep slopes, wet soils in drainage ravines and wetlands, and very dry soils that prevent root growth, as well as erosion of the shoreline bluffs. As the majority of the property is currently forested, erodible soils may be destabilized if the land is disturbed or cleared.

Purse State Park

The park's coast is mostly comprised of nearly level Keyport Silt Loam (KpA). The steeper Gravelly Land (GvE) encompasses most of the tract's drainage area, and the upland is composed of mostly Exum series soils subject to erosion.

Maryland Point Naval Observatory

The only soil type present at Maryland Point tract is Keyport Silt Loam (KpA), which causes the relatively flat and level nature of the land.

Remainder of Planning Area

A review of the Soil Survey of Charles County, Maryland (USDA, 1974) indicates the site has twenty-four identified types of soil falling within the Beltsville-Exum-Wickham (BEW) association and the Evesboro-Keyport-Elkton (EKE) association. The BEW association is said to contain level to moderately sloping, moderately well drained and well-drained loamy soils. Some of these soils contain moderately deep to hard, dense, root-inhibiting fragipan. The EKE association is said to contain level to moderately sloping excessively drained, sandy soils and moderately well drained and poorly drained, level to gently sloping, loamy soils that have a clayey subsoil. Aerial overlay (1970) from soils maps shows the project site consisted of mixed coniferous and deciduous forest. A detailed description of the soils that occur in the subject area follows:

Soil Series Detail

Beltsville Series:
The Beltsville series consists of nearly level to moderate sloping, moderately deep, moderately well drained soils. These soils are strongly acid and slowly permeable, and have a fragipan that generally is at a depth of less than 30 inches. Beltsville soils are formed in silty and moderately sandy material containing moderate amounts of clay. They are in the most upland areas and are the most extensive soils in the county. Near the surface these soils are often saturated, but they are almost dry in and below the slowly permeable fragipan. This Beltsville series include the following type of soils:

a) Beltsville Silt Loam (BIA); 0 to 2 percent The hazard of further erosion generally is slight.
b) Beltsville Silt Loam (BIB2); 2-5 percent slopes, moderately eroded.
c) Beltsville Silt Loam (BIC2); 5 to 10 percent slope, moderately eroded.
d) Beltsville Silt Loam (BIC3); 5 to 10 percent slopes, severely eroded.

Bibb Silt Loam (Bo) – This is the only Bibb soil mapped in the county. It is nearly level and in only a few places are slopes more than one percent. These formed in recently deposited alluvium that was washed mainly from soils on the uplands Bibb soils are easy to work when the moisture content is favorable. The native vegetation is wetland hardwoods, mainly red maple, blackgum, birch, willow, and oaks. Artificial drainage is needed for cultivated crops. The high water table may cause delays in planting where Bibb soils are farmed. These soils are moderately permeable.

Elkton Series:
The Elkton series consists of nearly level, poorly drained soils in areas bordering major rivers on higher upland flats. These soils have fine subsoil that is slowly permeable to very slowly permeable. These formed in old deposits of very clayey marine and alluvial sediments. These soils have high available moisture capacity. These have high water table. and are wet for long periods. Poor drainage and high water table are severe limitations for most nonfarm lands. The soil type is Elkton Silt Loam (Ek).

Eroded Land (ErE):
It consists of steep areas that have been so severely eroded that the soil profile largely has been destroyed. Slopes range from 15 to more than 40 percent. In most places the surface layer and the subsoil have been lost, have been severely gullied or both. This unit is not suitable for crops or grazing. Keeping the areas of this land under a cover of protection vegetation helps to control erosion.

Exum Series:
The Exum series consists of gently sloping to moderately sloping deep, moderately well drained soils on uplands. These lands formed in old silty deposits containing moderate amounts of clay and small amounts of sand. These soils have a high available moisture capacity, but are low in natural content of plant nutrients. The native vegetation mostly is mixed hardwood and Virginia pine. Wetness, slope, and the hazard of erosion chiefly limit use of these soils. The soil types are:

a) Exum Silt Loam (ExC2); 5 to 10 percent slopes, moderately eroded
b) Exum Silt Loam (ExD2); 10 to 15 percent slopes, moderately eroded
c) Exum Clay Loam (ExC3); 5 to 10 percent slopes, severely eroded.
d) Exum Clay Loam (EyD3); 10 to 15 percent slopes, severely eroded.
e) Exum-Beltsville Loam (EzB2); 2 to 5 percent slopes, moderately eroded

Gravelly Land (GvE):
Gravelly land, steep, consists of gravelly deposits of soil materials. Most of the gravel is quartz pebbles that are smooth, rounded to subangular, and mostly less than two inches in diameter. Slopes range from about 15 to 50 percent. Gravelly land is not suitable for crops or grazing. It is best suited to woodland, watershed protection, wildlife habitat, and a source of gravel.

Luka Series:
The Luka series consists of nearly level to gently sloping, deep, moderately well drained soil on flood plains and in uplands depressions. These soils formed in recently deposited alluvium that was washed mainly from soils on the uplands in the county. Where these soils occur on flood plains, these are subject to flooding from streams. Where these occur in upland depressions , these are saturated with water for short periods. Luka soils are easy to work at favorable moisture content. These have a high water table late in spring, high available moisture capacity. Permeability in these soils is moderate to moderately slow. The native vegetation consists of mixed wetland hardwoods. The soil type includes

a) Luka Silt Loam, local alluvium (ln) – The soil is seasonally wet and seepage spots are common. It does not dry as quickly and is not easy to work. This type soil is suited to cultivated crops, pasture, and woodland.

Keyport Series:
The Keyport series consists of moderately well drained nearly level to moderately sloping soils. These soils are chiefly at low elevations near major rivers. Keyport soils have high available moisture capacity and permeability is low. These soils are limited by impeded drainage, slow movement of water, through the subsoil, and the hazard of further erosion. These are not well suited to deep-rooted crops that require good drainage and soil aeration. The native vegetation is mixed and wetland hardwoods. These types of soils are:

a) Keyport Silt Loam (KpA); 0 to 2 percent slopes
b) Keyport Silt Loam (KpC2); 5 to 12 percent slopes, moderately eroded.
c) Keyport Silt Loam (KpC2); 5-12 percent slopes, moderately eroded.

Leonardtown Series:
The Leonardtown series consists of shallow or moderately deep, poorly drained, nearly level soils that have a fragipan. These soils are on upland flats that commonly lack channeled drainage ways. They formed in old silty marine deposits. The native vegetation consists of wetland hardwoods, including oaks, holly, maples and gums. This include the soil type:

a) Leonardtown Silt Loam (Le)

Mattappex Series:
The Mattappex series consists of level to moderately sloping, deep, moderately, well drained soils. These soils are chiefly in low-lying areas bordering major rivers of the county. Mattappex soils are easy to work, but in winter and in spring they are limited by the presence of high water table. Available moisture capacity is high. Permeability is moderately is low. These soils are intensively farmed. Seasonal wetness and impeded drainage are limitations for nonfarm uses. The native vegetation is mixed wetland hardwoods.

Sassafras Series:
The Sassafras series consists of nearly level to moderately sloping, deep, well-drained soils on uplands. These soils formed in loose deposits of loamy and sandy sediment of marine and alluvial origin. The soils are easy to work. These have moderate available moisture capacity and are moderately permeable. Slope and the hazard of further erosion are the chief limitations to farming and non-farm uses. The native vegetation is mixed hardwood, mainly oaks. The soil type is:

a) Sassafras Sandy Loam (ShA); 0-2 percent slopes.

Tidal Marsh (Tm):
Tidal marsh is in estuaries along the lower sides of streams and in low areas that border the major rivers. Some areas are flooded daily by tidal waters and others are flooded less frequently. Tidal waters vary in salinity from almost fresh to strongly brackish. The soil material ranges from sand to clay, but some places it is peaty and mucky. The vegetation is marsh grasses and sedges that contain some salt-tolerant herbs and low shrubs. Tidal marsh is not suited to crops, pasture, or trees. It is suitable for use as habitat for wetland wildlife, tidal pool, and for recreation.

Wickham Series:
The Wickham series consists of gently sloping to moderately sloping, deep, well-drained soils on ancient terraces of the Potomac River. These soils formed in old loamy deposits that contain mica, and other weatherable minerals and a small amount of silt. Wickham soils are easy to work except in places where they are severely eroded. These have high available moisture capacity and are moderately permeable. Slope and the hazard of further erosion are chief limitations to use. The native vegetation is mixed upland hardwoods and Virginia pine. The soil type includes:

a) Wickham Fine Sandy Loam (WkC2); 2 to 5 percent slopes, moderately eroded.

Appendix 7 – Biological Species

Plant Species at Douglas Point by Habitat Type

The following indicator flora species are found on the Douglas Point tract (Charles County 1980):

Table 9. Tree and plant species at Douglas Point

Mixed hardwood forest species			
White oak (Quercus *alba*)	Southern red oak (Q. *falcata*)	Chestnut oak (Q. *prinus*)	Scarlet oak (Q. *coccinea*)
Mockernut hickory (Carya *tomentosa*)	Pignut hickory (C. *glabra*)	Beech (Fagus *grandifolia*)	Yellow poplar (Liriodendron *tulipfera*)
Flowering dogwood (Cornus *florida*)	American holly (Ilex *opaca*)	Mountain laurel (Kalmia *latifolia*)	
Pine forest			
Virginia scrub pine (Pinus *virginiana*)	Japanese honeysuckle (Lonicera *japonica*)	Red maple (Acer *rubrum*)	Sweet gum (Liquidambar styraciflua)
Black gum (Nyssa *sylvatica*)	false indigo (*Amorphia fruiticosa*)	black locust (*Robinia pseudoacacia*)	
Wetland species (including freshwater marsh, shrub swamp and tree swamp communities)			
Freshwater marsh (and sand bars of these wetlands)			
Dock (Rumex *sp.*)	Knotweed (Polygonum *spp.*)	Rose mallow (Hibiscus *moscheutus*)	Broad-leaved cattail (Typha *latiflora*)
Narrow-leaved cattail (T. *augustifolia*)	Wax myrtle (Myrica *cerifera*)	Box elder (Acer *neguundo*)	Red willow (Cornus *amomum*)
Shrub swamp			
false indigo (*Amorphia fruiticosa*)	Swamp rose (Rosa *palustris*)	Common alder (Alnus *serrulta*)	Black willow Salix *nigra*)
Tree Swamp			
Pumpkin ash (Fraxinus *tomentosa*)	Green ash (F. *pennsylvanica*)	White ash (F. *americana*)	Red maple (Acer *rubrum*)
Open field species			
Tickseed sunflower (Bidens *polylepsis*)	Sticktights (Desdemonium *spp.*)	Goldenrod (Solidago *spp.*)	Thorouhgwort (Eupatorium *spp.*)
Aster (Aster *spp.*)	Dewberry (Rubus *flagellaris*)	Black-eyed susan (Rudbeckia *hirta*)	

Douglas Point

A mixed hardwood forest is the dominant vegetation on the Douglas Point Tract. This forest type is very indicative of western Charles County and the soils that are present. Ravines and adjacent uplands in the central and southern portion of the parcel support a mature hardwood forest that is beginning to exhibit the characteristics of: uneven age, well-developed vertical structure with large trees apparently over 100 years old, canopy gaps, and large amounts of woody debris on the forest floor. White oak, Northern red oak, Southern red oak, Swamp chestnut oak, Bitternut and Mockernut hickories, Tulip tree (yellow poplar), and Beech are common in the overstory. American holly, Mountain laurel, and Paw paw are common in the understory. Other species include Birch, Sweet gum, Willow oak, Maple, Cherry, Cedar, Dogwood, Spice bush, and Greenbrier. The gypsy moth has defoliated and killed trees on the property and oak decline is present. Oak regeneration is sparse due to the dense understory of Laurel and Holly.

Virginia pine is the dominant tree comprising the pine forest community, which also includes loblolly pine, red maple, sweet gum and black gum. Understory vegetation includes black locust, false indigo, and Japanese honeysuckle. Currently there are also several stands of Virginia pine in decline on the property, evident by the abundance of trees blown down. This is typical of the species, as it ages resulting in frequent blocked access roads and gaps in the canopy.

An old-field community is located in the southern portion of the Douglas Point property. Vegetation includes grasses, Goldenrod, Asters, Dewberry and Virginia pine.

Maryland Point

The majority of the property is open field. A study of remaining tree stands and of successional growth since the installation was closed remains to be completed.

Wilson Farm

Wilson Farm displays many of the same communities as found at Douglas Point and the remainder of the study area. Having once been in agricultural use, there are several old-field communities with many of the early successional species, such as Eastern red Cedar, Black locust, and Ailanthus, as well as grasses.

The forested ravines to the north and south of the entrance drive are mature and in excellent condition, and provide suitable habitat for several rare species currently and historically known to occur in the general vicinity. The ravine south of the entrance drive supports several herbaceous species that are characteristic of the Piedmont region and uncommon on the Coastal Plain, including Showy orchis (*Galearis spectabilis*), Broad beech fern (*Dryopteris hexagonoptera*), and Maidenhair fern (*Adiantum pedatum*). These species, with an overstory including White ash (*Fraxinus americana*) and Tulip tree (Liriodendron tulipifera), indicate that the ravine cuts through a geologic formation containing shell deposits that contribute calcium to the soil. North of the entrance road the mature forest does not reflect the same influence of shell deposits, but appears to be more acidic. Both ravines are steeply sloped and have very fragile, erodible soils.

Stands of pines transitioning into mixed pine and hardwood can be found on the western portion of the property south of the old fields. The eastern portion of the property contains mixed hardwood and pine similar in species to the remainder of the study area.

Purse State Park

The upland communities at Purse State Park are similar to those found on the Douglas Point Tract since the properties are contiguous. The western portion of the property is dominated by pine and mixed hardwoods, transitioning to maturing hardwood forest towards the river. Again, Holly and Paw paw are dominant understory trees. Small clearings on the property exhibit vegetation indicative of disturbance and proximity to the shoreline, such as red cedar and black Locust as well as typical edge species. The eastern portion of the property is also dominated by maturing hardwoods. Holly is the dominant understory tree and mountain laurel populates a large area on the slope of a drainage ravine.

Vegetation – Wetlands Communities

Douglas Point Properties and the Study Area

Wetland communities in the study area include freshwater marshes and forested wetlands associated with seeps and drainages, lakes and ponds, and tidal wetlands, which are influenced by freshwater and saltwater. The freshwater wetlands are characterized by emergent plants such as cattails, pickerel weed, rushes and sedges. The common tree and plant species found in the forested wetlands within the study area include pumpkin ash, green ash, red maple, false indigo, swamp rose, common alder, and black willow.

Douglas Point

Most of the wetland systems on the western side of this tract are associated with the forested flood plains of the two perennial streams, the various drainage areas, and three intermittent streams. Other open wetlands are associated with the riverine influence of the Potomac River and bounded by steep slopes. In several locations groundwater seeps to the surface and creates nontidal wetlands with soil that is saturated year round but seldom, if ever, floods. The seeps have a partially open canopy, with Sweet bay dominant in the understory and a diverse shrub layer including Possum-haw ,Winterberry ,Spicebush , Fringe tree, Poison sumac, and Red-berried greenbrier. The herbaceous layer is also diverse, with Cinnamon fern and several other ferns, species of sphagnum moss and liverworts, several species of sedge and skunk cabbage. The eastern side, in contrast, has one drainage area with limited associated wetlands.

Maryland Point Naval Observatory

Further study of the property should be performed to locate any locally wet or poorly drained areas. The relatively flat topography and the loamy soils would indicate that the property is not prone to significant drainage or wetland systems. The entrance road runs through an obvious, large nontidal wetland.

Wilson Farm

The most prevalent wetland system on Wilson Farm is associated with Mallows Bay. The various streams that feed into the bay have an extensive area of tidally influenced wetlands that act as a transition to the inlet bay itself. These wetlands receive the drainage from the steep slopes surrounding them. Other wetlands on the property are associated with the flood plains of two streams that cross under MD Route 224. In addition, an open water beaver pond lies on the southern boarder of the property.

Purse State Park

Wetlands on the park property appear to be less prevalent in the landscape than as on the Wilson Farm and Douglas Point tracts. Wetlands associated with the drainage areas and where the few tributary streams feed into the river are the only systems of note on the property.

Forestry

Table 10. Forest Stand Summary at Douglas Point

Stand #	Forest Type	Timber Size	Acres	% total forest cover
1	RO,WO, CO,YP	Sawtimber/Mature	784.6	57 %
2	CO	Sawtimber/Mature	26.2	2 %
3	CO, RO	Sawtimber/Mature	90.8	6%
4	YP, SG	Sawtimber/Pole	21.4	1 %
5	VP, LP	Sawtimber/Pole	135.3	10 %
6	YP, SG	Sawtimber/Mature	59.2	4 %
7	RM, SG, WIO	Sawtimber	25.7	2 %
8	WO, RO, AB	Pole/Sawtimber	121.2	9 %
9	AB,WO	Pole/Sawtimber	63.5	5 %
10	RM,AB	Pole/Sawtimber	14.8	1 %
11	Old Field/VP	Sapling/Pole	18.4	1 %
	Wetlands		24.8	2 2 %
	Total		1386.1	100 %

Notes: AB – American Beech, CO – Chestnut Oak, LP – Loblolly Pine, RO – Red Oak, RM – Red Maple, SG – Sweet gum, VP – Virginia Pine, WIO – Willow Oak, WO – White Oak, YP – Yellow Polar.

Invasive Species

Douglas Point

Below the 50-foot topographic contour, the areas that support the most mature deciduous forest are virtually free of invasive species, while Japanese honeysuckle is abundant in younger deciduous stands. Japanese stilt grass is present along the road to the transmitter, and is just beginning to spread into the upper ends of a few intermittent streams near the road. In some areas of the younger mesic deciduous forest north of the transmitter access road, Japanese honeysuckle vines are twining on shrubs and tree saplings, inhibiting their growth.

In the large beaver marsh that flows into the Potomac River at Douglas Point north of the transmitter access road, phragmites forms a dense stand in the center of the marsh, but currently constitutes a small portion of the marsh area. Individual plants are scattered at the upstream end of the marsh where it transitions to shrub swamp. Phragmites has also established in small, isolated nontidal seepage wetlands northeast of this beaver marsh.

East of MD Route 224, invasive species are established in the vicinity of the abandoned houses.

Maryland Point Naval Observatory

No assessment has been made regarding invasive species on this property, although it is likely that some may be present due to the past history of human activity and ingress and egress of vehicles on this property.

Wilson Farm

The forested ravines to the north and south of the main entrance drive have few invasive species. Japanese honeysuckle is scattered in low density and is not likely to become aggressively invasive as long as canopy cover is maintained. However, if trees are removed from this mature forest, the additional sunlight will promote the growth of this species to the detriment of the native species in the vicinity.

In the young upland forest along the entrance road and in the power line right-of-way, several non-native, invasive species are well established and locally dominant. Japanese honeysuckle forms a thick groundcover in some areas and is twining around tree saplings, inhibiting their growth. Japanese stilt grass is abundant in the right-of-way, and tree of heaven is scattered adjacent to the right-of-way.

Along the beaver pond south of the entrance drive, several non-native, invasive species grow along the wetland edge and lower slope, including Japanese stilt grass, wineberry, and marsh dewflower.

Purse State Park

Chinese lespedeza has been observed in a clearing located near the end of the dirt road that accesses Purse State Park (McKnight pers. comm. 2001). No other assessment has been made regarding invasive species on this property.

Wildlife

Aquatic Species

Table 11. Finfish species collected in order of least to most abundant at two Potomac River beach seine sites

Site Name	Blossom Point	Liverpool Point
Common Name	Banded blenny	Atlantic croaker
	Chain pickerel	Blue catfish
	Longnose gar	Longnose gar
	Quillback	Rainwater killifish
	Redear sunfish	Redbreast sunfish
	Sheepshead minnow	Smallmouth bass
	Spanish mackerel	Spanish mackerel
	Threadfin shad	Striped killifish
	Winter flounder	Striped mullet
	Hogchoker	Summer flounder
	Oyster toadfish	Threadfin shad
	Atlantic thread herring	Unknown cyprinid
	Striped mullet	White catfish
	Brown bullhead	Black crappie
	American eel	Crevalle jack
	Fourspine stickleback	Quillback
	Channel catfish	Satinfin shiner
	Tessellated darter	Goldfish
	White catfish	Striped anchovy
	Northern pipefish	Chain pickerel
	Silver perch	American eel
	Largemouth bass	Brown bullhead
	Bluegill	Silver perch
	Carp	Atlantic needlefish
	Golden shiner	Mummichog
	Striped anchovy	Unknown sunfish
	Spottail shiner	Carp
	Atlantic croaker	Channel catfish
	Yellow perch	Bluefish
	American shad	Tessellated darter
	Bluefish	Spot
	Atlantic needlefish	Largemouth bass
	Pumpkinseed	Yellow perch
	Alewife	Banded killifish
	Gizzard shad	Pumpkinseed
	Rough silverside	Golden shiner
	Banded killifish	Bluegill
	Striped killifish	Gizzard shad

Site Name	Blossom Point	Liverpool Point
	Mummichog	Bay anchovy
	Inland silverside	Rough silverside
	Silvery minnow	Spottail shiner
	Spot	American shad
	Blueback herring	Striped bass
	Striped bass	Silvery minnow
	Bay anchovy	Alewife
	White perch	Inland silverside
	Atlantic silverside	Atlantic silverside
	Atlantic menhaden	Blueback herring
		Atlantic menhaden
		White perch

Note: Other aquatic resource data are available through the Maryland DNR Watershed Assessment Division.

Appendix 8 – Visual Resources Management (VRM)

Class I
To preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II
To retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III
To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Class IV
To provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance and repeating the basic landscape elements.

The VRM system, therefore, provides a means to identify visual (scenic) values, establish objectives through the Resource Management Planning process or on a case-by-case basis for managing these values, and provides timely input into proposed surface-disturbing projects to ensure the assigned objectives are met.

Appendix 9 – Payments in Lieu of Taxes (PILT)

The following is from BLM's website that describes the Federal government's PILT program.

Sec. 1881.31 How does BLM calculate section 6904 payments? Congress appropriates PILT payments each year. The BLM allocates payments according to a formula in the PILT Act that includes population, receipt sharing payments, and the amount of Federal land within an affected county.

BLM calculates payments by determining 1% of the fair market value of the purchased land and comparing the result to the amount of real estate taxes paid on the land in the year prior to Federal acquisition. The payment to qualified units of general local government will be the lesser of the two. (43 CFR Part 1880)

BLM computes payments authorized under section 6902 of the Act using the greater of the following two alternatives:

(A) $1.99 (in fiscal year 2002) times the number of acres of qualified Federal land in the county (as defined above), reduced by the amount of funds received by the county in the prior fiscal year under certain other Federal land receipt sharing programs such as the twenty-five percent timber program or the mineral leasing program

-or-

(B) Twenty-seven cents (in fiscal year 2002) times the number of acres of qualified Federal land in the county, with no deduction for prior-year payments.

Both alternatives explained above are subject to a population ceiling limitation computed by multiplying the county population times a corresponding dollar value (adjusted annually for inflation) contained in the Act.

Section 6904 and 6905 payments are computed by taking one percent of the fair market value of land acquired for addition to the National Forest or National Park systems and comparing the result to the amount of property taxes paid on the land in the year prior to Federal acquisition. The county payment is the lesser of the two.

Section 6904 payments are made annually for a period of five years. The first payment begins in the Federal fiscal year following the fiscal year in which the land was acquired by the Federal Government, unless mandated otherwise by law.

Section 6905 payments are also made annually but continue until five percent of the fair market value is fully paid. The first payment begins in the Federal fiscal year following the fiscal year in which the land as acquired by the Federal Government, unless mandated otherwise by law. However, the yearly payment may not exceed the lesser of one percent of the fair market value or the property taxes that were assessed prior to Federal acquisition.

Congress sets annual funding limitations that may also affect the amount of PILT payments. Funding limitations are equitably applied to all payments under the program. Any PILT payment or portion of a payment that is not made as a result of funding limitations is not carried forward to future years.

Appendix 10 – Federal Laws and Programs

The followings laws contain specific procedural activities or performance levels that BLM must undertake or achieve prior to finalizing land use planning decisions:

Americans with Disabilities Act, 42 U.S.C. 12101 et seq.
American Indian Religious Freedom Act, 42 U.S.C. 1996
Archaeological Resources Protection Act, 16 U.S.C. 470aa, et seq.
Clean Air Act, as amended, 43 U.S.C. 7401 et seq.
Clean Water Act, 33 U.S.C. 1251 et seq.
Coastal Zone Management Act, 16 U.S.C. 1451-1464
Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. 9615
Emergency Military Construction Act of 2000 (Pub. Law 106-246, 114 Stat. 511 (July 13, 2000))
Endangered Species Act, 16 U.S.C. 1531, et seq.
Executive Order (E.O.) 11990, Protection of Wetlands (5/24/77)
E.O. 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (2/11/94)
E.O. 13112, Invasive Species (2/3/99)
E.O. 11988, Floodplain Management (5/27/77)
Federal Land Policy and Management Act, 43 U.S.C. 1701, et seq.
Federal Noxious Weed Act (7 U.S.C. 2801-2814, January 3, 1975, as amended.)
Federal Water Pollution Control Act, 33 U.S.C. 1344
Fish and Wildlife Coordination Act, 16 U.S.C. 661-664
Government Performance and Results Act of 1993 5 U.S.C. 306, et seq.
Land and Water Conservation Fund Act, 16 U.S.C. 4601-4 through -11
National Environmental Policy Act, 42 U.S.C. 4321, et seq.
National Historic Preservation Act, 16 U.S.C. 470, et seq.
Omnibus Interior Appropriations Act of 2000
Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.
Rivers and Harbors Act, 33 U.S.C. 403
Surface Mining Control and Reclamation Act, 30 U.S.C. 1201, et seq.
Wild and Scenic Rivers Act, 16 U.S.C. 1271, et seq.
Wilderness Act, 16 U.S.C. 1131, et seq.

Applicable Federal Regulations

- 36 CFR 800, et seq., historic properties
- 40 CFR 1500, et seq., NEPA regulations
- 43 CFR 1610, land use planning
- 43 CFR 2800, right-of-way corridors
- 43 CFR 2920, leases, permits and easements
- 43 CFR 8340, et seq., off-highway vehicle use

Appendix 11 - State of Maryland Laws and Programs

State of Maryland Laws

- Forest Conservation Act of 1992
- Maryland Historic Preservation Law
- Maryland's Planning Law
- Chesapeake Bay Critical Area Act of 1984

Plans and Programs

- Chesapeake Bay Critical Area Program
- DNR Land Unit Designations
- Forest Service Program Summary
- Maryland Coastal Zone Program
- Natural Heritage Program
- Program Open Space
- Smart Growth and Neighborhood Conservation Initiatives
- State (Air Quality) Implementation Plan

Natural Heritage Program

The Natural Heritage Program (NHP) is the lead program within DNR for the implementation of the State's Nongame and Endangered Species Conservation Act (Act). The NHP identifies and protects the State's rare plant and wildlife species and natural communities. The NHP's database is the State's centralized source of information concerning the locations as well as protection and stewardship needs of these rare species and natural communities. Addressing the mandates of the Act to conserve native species of wildlife and plants, assist in their protection, and insure their perpetuation within their ecosystems, the NHP:

- Assists private and public conservation organizations (including county planning and zoning agencies, Maryland Environmental Trust, local land trusts, The Nature Conservancy, and the Chesapeake Bay Foundation) in identifying important plant and wildlife habitats to protect and in developing and implementing protection plans for these natural areas;
- Informs private landowners and public land managers about habitats for rare species and natural communities, encourages the voluntary protection of these areas, and assists in developing and implementing protection plans to conserve these significant habitats, including habitat restoration when necessary;
- Maintains the State's Threatened and Endangered Species list and natural community classification; and
- Reviews land use proposals submitted to State agencies for approval or funding for potential impacts to rare species and natural communities, works with agencies and applicants to seek alternatives that reduce or eliminate impacts, and recommends permit conditions that afford protection to listed species and their habitats.

Maryland Forest Service Program Summary

The Maryland Forest Service provides technical forest management advice to manage State Forests and lands. Multiple use management recommendations concerning the management of forested ecosystems is coordinated with professionals from the Wildlife and Natural Heritage Division in order to provide conservation recommendations to conserve and promote the natural resources on the property.

The Forest Service is available to provide forest management recommendations, forest buffer establishment, habitat protection recommendations, fire protection and general forest health monitoring/management. A Forest Stewardship Plan will identify the goals and objectives of the property manager, and give detailed management recommendations on how to achieve these goals while protecting sensitive habitats. Objectives include but are not limited to fish and wildlife habitat protection/enhancement, soil and water conservation, natural heritage/recreation promotion and forest product management.

Chesapeake Bay Critical Area Program

The Chesapeake Bay Critical Area Act, passed in 1984, directed all local governments within the Chesapeake Bay watershed to develop individual critical area programs that would function as a comprehensive land use strategy for preserving and protecting Maryland's most important natural resource, the Chesapeake Bay.

The law identified the "critical area" as all land within 1,000-feet of the mean high water line of tidal waters and the landward edge of tidal wetlands and all waters of, and land under, the Chesapeake Bay and its tributaries. The law created a statewide Critical Area Commission, comprised of 27 members, representing various regions of the State and State agencies, to oversee the development and implementation of local land use programs directed towards the Critical Area that met the following goals:

- Minimize adverse impacts on water quality that result from pollutants that are discharged from structures or conveyances or that have run off from surrounding lands;
- Conserve fish, wildlife, and plant habitat in the critical area; and
- Establish land use policies for development that accommodate growth and also address the fact that, even if pollution is controlled, the number, movement, and activities of persons in the critical area can create adverse environmental impacts.

The commission developed criteria that included goals, objectives, policies, and standards that require local governments to use to develop their critical area programs. There are critical area programs in sixteen counties, 44 municipalities, and the City of Baltimore. In general, these programs are implemented through and incorporated into local comprehensive plans, zoning ordinances, and subdivision regulations, although some jurisdictions implement their programs through a stand alone ordinance or plan. The programs are comprehensive and are specific to each local government, addressing the unique characteristics and needs of each jurisdiction.

All local critical area programs classifies all land within the critical area as either:

- Resource conservation area,
- Limited development area, or
- Intensely developed area.

These classifications may function as overlay zones or may be related to actual zoning classifications in the jurisdiction. Within each classification, there are various policies and

standards that regulate development activity, including forest and woodland protection provisions, impervious surface limits, density and land use restrictions, water quality standards, and habitat protection requirements.

In addition, there are provisions that regulate water-dependent facilities, shore erosion control, timber harvesting, and agriculture. These provisions are essentially performance standards that are designed to minimize adverse environmental impacts associated with these activities while recognizing their importance and value as resource utilization and conservation activities.

Each local program also identifies habitat protection areas (HPAs) that are specifically defined and require special protection measures. HPAs include the following resources:

- 100-foot buffer (from tidal waters, tidal wetlands, and tributary streams)
- Threatened and endangered species and species in need of conservation
- Natural Heritage Areas
- Colonial waterbird nesting sites
- Historic waterfowl staging and concentration areas
- Riparian forests that provide habitat for Forest Interior Dwelling [Bird] Species (FIDS)
- Large forested tracts that provide habitat for FIDS
- Anadromous fish propagation waters

The critical area criteria prohibit new development activities within the 100-foot buffer. The criteria protect other HPAs from the adverse impacts of development and human activity in such away that the areas are conserved and continue to function as habitat. These provisions vary depending on the type of habitat but include measures such as required buffers, time of year restrictions on development and clearing, and watershed management plans.

The Critical Area Act regulations serve as an innovative and comprehensive approach to conserving the numerous and diverse natural resources that comprise the Chesapeake Bay watershed. The regulations promote environmentally sensitive stewardship of land in the critical area while accommodating future growth, allowing for the prudent use of natural resources, and providing for the preservation of resources for future generations.

The Maryland coastal zone management program is part of the Chesapeake Bay Critical Area Commission program.

Maryland Wetlands and Riparian Rights

Maryland Code : ENVIRONMENT : TITLE 4. WATER MANAGEMENT :
SUBTITLE 1. SEDIMENT CONTROL : § 4-101.1. Definitions.

(d) Waters of this State.- "Waters of this State" includes:

(1) Both surface and underground waters within the boundaries of this State subject to its jurisdiction, including that part of the Atlantic Ocean within the boundaries of this State, the Chesapeake Bay and its tributaries, and all ponds, lakes, rivers, streams, storm drain systems, public ditches, tax ditches, and public drainage systems within this State, other than those designed and used to collect, convey, or dispose of sanitary sewage; and

(2) The flood plain of free-flowing waters determined by the Department of Natural Resources on the basis of the 100-year flood frequency.

Maryland Code : ENVIRONMENT : TITLE 16.
WETLANDS AND RIPARIAN RIGHTS : SUBTITLE 1.
IN GENERAL : § 16-101. Definitions. [1988, ch. 277, § 2; 1989, ch. 5, § 1; 1991, ch. 168.]

n) State wetlands.- "State wetlands" means any land under the navigable waters of the State below the mean high tide, affected by the regular rise and fall of the tide Wetlands of this category which have been transferred by the State by valid grant, lease, patent or grant confirmed by Article 5 of the Maryland Declaration of Rights shall be considered "private wetland" to the extent of the interest transferred.

Maryland Code : NATURAL RESOURCES : TITLE 8. WATERS : SUBTITLE 7. STATE BOAT ACT : § 8-701. Definitions.
t) Waters of the State.- "Waters of the State" means any water within the jurisdiction of the State, the marginal sea adjacent to the State, and the high seas when navigated as part of a ride or journey to or from the shore of the State.

Maryland's GreenPrint Program

The following is from http://intranet/greenways/greenprint/gip.html: The GreenPrint program focuses on important natural resource lands that have been identified based on principles of landscape ecology and conservation biology. These lands have been identified as the result of a process undertaken by the Department of Natural Resources and its partners known as the Green Infrastructure Assessment (GIA).

The GIA is a computer tool developed to help identify and prioritize areas in Maryland for conservation and restoration. The goal is to target those areas of greatest statewide ecological importance. The GIA was developed, in part, to provide a consistent approach to evaluating land conservation and restoration efforts in Maryland. It specifically attempts to recognize: (1) a variety of natural resource values (as opposed to a single species of wildlife, for example), (2) how a given place fits into a larger system, (3) the ecological importance of open space in rural and developed areas (4) the importance of coordinating local, State and even interstate planning, and (5) the need for a regional or landscape-level view for wildlife conservation.

The GIA resulted in two types of important resource lands - **"green hubs"** and **"green links."** **Green Hubs** are typically large (the average size of all green hubs in the State is approximately 2200 acres) contiguous areas that contain one or more of the following:

- Large blocks of contiguous interior forest (containing at least 250 acres, plus a transition zone of 300 feet)
- Large wetland complexes, with at least 250 acres of unmodified wetlands
- Important animal and plant habitats of at least 100 acres, including: rare, threatened, and endangered species locations; unique ecological communities; and migratory bird habitats
- Relatively pristine stream and river segments (which, when considered with adjacent forests and wetlands, are at least 100 acres) that support trout, mussels, and other unique aquatic organisms
- Existing protected natural resource lands which contain one or more of the above (for example - State Parks and Forests, National Wildlife Refuges, locally owner reservoir properties, major stream valley parks)

In the GIA model, the above features were identified from GIS data that existed statewide in Maryland. Developed areas and major roads were excluded, areas less than 100 contiguous acres were dropped, adjacent forest and wetland was added to the remaining green hubs, and the edges were smoothed. Green Hubs, which were separated by major roads and/or other human land uses, were ranked within their physiographic province for ecological importance. Rankings were based on factors considered important by professional biologists and natural resource experts. The results of the GIA were reviewed by field ecologists and county planners, and compared to other inventories of important natural resources in Maryland. Green Hub locations were largely consistent with existing natural areas according to these sources, although some small features may have been missed.

Green Links are linear features connecting green hubs together to help animals and plant seeds to move between green hubs. Green Links were identified using many sets of data, including land cover, roads, streams, elevation, flood plains, aquatic resource data, and fish blockages. Generally speaking, green links connect green hubs of similar type (green hubs containing forests are connected to one another; while those consisting primarily of wetlands are connected to others containing wetlands).

As for green links, they generally follow the best ecological or "most natural" routes between green hubs. Typically these are streams with wide riparian buffers and healthy fish communities. Other good wildlife corridors include ridge lines or forested valleys. Developed areas and other unsuitable features were avoided.

Gaps in the green infrastructure system are categorized as developed, agricultural, or mined lands that could be targeted for restoration. For example, dredged or drained wetlands could be targeted for restoration. Structures such as underpasses or bridges can be designed to help wildlife movement where roadways and railways cross corridors and hubs. Similarly, stream blockages can be identified for fish ladders, bypasses, or other structures.

The GIA also provides an approach for ranking or prioritizing land protection efforts. Green hubs and green links can be ranked for a variety of natural resource values. These rankings are being done in such a way as to ensure that a given green hub would only be compared with similar green hubs in a particular (physiographic) region of the State. The GIA was done this way to prevent inappropriate decisions that could result by comparing the natural resource values of the forests of western Maryland with the wetlands of the eastern shore, for example. The GIA is also capable of being used for more local land and resource evaluations. By combining the results of the GIA with additional sources of information, it is possible to determine if and how a particular land conservation project will contribute to GreenPrint effort

Appendix 12 - Geologic Formations of Southwestern Charles County

Patuxent - Arundel Formations (undifferentiated)

The Patuxent - Arundel Formations (undifferentiated) (Lower Cretaceous) is the oldest coastal plain unit present. Although the Arundel Formation is separated from the Patuxent in its type section along the Baltimore-Washington corridor, in the subsurface of southwestern Charles County, these units are not mapped separately. The Patuxent - Arundel Formations (undifferentiated) consist of interbedded sands, silts and clays. The sands are light gray to orange-brown, clayey quartzose sands, interbedded with light to dark gray to red clays and silty clays. The unit is about 350 to 450 feet thick in southwestern Charles County, and the top of the unit ranges from about 200 to 400 feet below sea level as it deepens to the east-southeast.

Patapsco Formation

The Patapsco Formation (Lower Cretaceous) overlies the Patuxent - Arundel Formations (undifferentiated). Older literature describes this unit as the Patapsco - Raritan Formation, but current usage places the entire unit in the Patapsco Formation. The Patapsco Formation consists of fine- to medium grained, light gray to orange-tan, and buff quartzose sands, with interbeds of variegated, light to dark gray, and red clays and silty clays. In southwestern Charles County, the Patapsco Formation is about 200 to 300 feet thick and the top of the formation ranges from about 20 to 60 feet below sea level. The Patapsco Formation and the Patuxent - Arundel Formations-(undifferentiated) were deposited in river and delta systems. Together these units are termed the Potomac Group.

Aquia Formation

The Aquia Formation (Upper Paleocene) overlies the Patapsco Formation in southwestern Charles County. The Aquia is a gray to greenish-gray, fine- to medium grained, glauconitic sand, with interbedded layers of sandy and silty clay. Glauconite is a greenish-black mineral that gives the characteristic greenish color to the Aquia Formation. Indurated (calcite cemented) zones, generally 2 to 3 feet thick occur in the Aquia. The Aquia is exposed at the surface in the western part of the county along low bluffs facing the Potomac River and along stream banks and valley walls of tributaries to the Potomac. The Aquia often weather to reddish-brown as the glauconites weather to limonites. The Aquia ranges from 20 to 60 feet thick in southwestern Charles County, and the top of the unit ranges from sea level to about 40 feet above sea level. The Aquia is marine in origin, and marine fossils including foraminifers, mollusks, shark's teeth, fish, and turtles are common.

Found at Douglas Point and Purse State Park, the Aquia Formation appears at the ground's surface in 10- to 20-foot high bluffs that parallel the shoreline and along parts of Wades Bay.

Surficial Pliocene and Pliocene Units

The Aquia Formation is overlain by a number of different Pliocene and Pleistocene age units in southwestern Charles County, and these are shown on the Geologic Map of Charles County (McCartan, 1989). The sediments mapped as Park Hall Formation (McCartan, 1989) were part of the unit termed the "upland deposits - western shore" in older literature and on the Geologic Map

of Maryland (Cleaves and others, 1968). Similarly, the sediments mapped as Chicamuxen Church, Maryland Point, Omar, and Kent Island Formations by McCartan (1989), were part of the unit termed the "lowland deposits - western shore" in older literature and on the Geologic Map of Maryland (Cleaves and others, 1968). The Park Hall and Chicamuxen Church Formations are fluvial and estuarine deposits, and the Maryland Point, Omar, and Kent Island Formations are more dominantly estuarine.

Park Hall Formation

The Park Hall Formation (upper Pliocene) occurs in parts of southwestern Charles County and at its westernmost extent overlies the Aquia Formation. The Park Hall is a silty, fine-grained sand and fine- to medium-grained sand and clay interbedded with medium- to coarse-grained sand with pebbles, cobbles, and boulders. The Park Hall is typically pink, pale brown, or medium yellow orange (McCartan, 1989). The unit averages 30 to 35 feet thick, and ranges from about 20 to in places more than 60 feet thick.

Chicamuxen Church Formation

The Chicamuxen Church Formation (middle to lower Pleistocene) overlies the Aquia Formation in much of southwestern Charles County. The Chicamuxen Church is typically a grayish yellow, orange and brown, silty clay and muddy fine sand that grades downward to a pebbly mud or sand (McCartan, 1989). The unit thickness ranges from about 35 to 55 feet.

The Chicamuxen Church Formation forms the surface geologic unit from which soils are developed over most of the Wilson Farm Property. It also crops out around 40 to 50 feet in elevation about a half-mile inland from Douglas Point, and can also be found at Purse State Park. It tends to lie parallel to the shoreline.

Omar Formation

The estuarine facies of the Omar Formation (upper Pleistocene) crops out in the Douglas Point area. McCartan (1989) describes the Omar Formation in Charles County as a yellow to brown, muddy and muddy fine sand grading downward to fine gravel with coarse sand matrix. In southwestern Charles County, the Omar generally unconformably overlies the Chicamuxen Church Formation, but may in places unconformably overlie the Aquia and Potomac Group units.

Maryland Point Formation

The Maryland Point Formation (upper Pleistocene) overlies the Aquia Formation in parts of southwestern Charles County. The upper third of the Maryland Point Formation is a grayish orange, fine- to course-grained, well-sorted to poorly sorted sand that fines downward to a gray to olive, poorly sorted, silty clay, and olive gray, pebbly clay at the base. The unit typically ranges from 25 to 40 feet thick, as it crops out at land surface (typically 20 to 30 feet above sea level), and the base is at 0 to 10 feet below sea level (McCartan, 1989).

The Maryland Point Formation, overlaying the Aquia Formation, is exposed along the western part of southern boundary of Wilson Farm and in the bluffs, ranging 10 to 30 feet in elevation, at Douglas Point. Where the Aquia Formation is absent, the Maryland Point Formation parallels the shoreline directly south of Douglas Point and on to Purse SP. The formation also appears at the ground's surface at Maryland Point Naval Observatory.

Kent Island Formation

The Kent Island Formation (upper Pleistocene) crops out in a small area along the Potomac River in parts of western Charles County. The Kent Island is mainly a tan to orange, fine- to medium-grained, moderately sorted to poorly sorted silty sand, with minor gray, silty to dewatered clay. The unit ranges from 5 to 20 feet thick with its base at about sea level (McCartan, 1989).

Cenozoic Colluvium

Cenozoic colluvium occurs in several places in southwestern Charles County. The Cenozoic colluvium consist of poorly sorted, massive to crudely bedded clay to cobble size material. It is generally yellow but tends to deep red-brown in older deposits. The colluvium is material eroded from the underlying units by slow creep or mass movement down hill. Typically the deposits are 3 to 10 feet thick and found as aprons at toes of scarps of Quaternary terraces and between adjacent Pliocene units (McCartan, 1989).

Quaternary Holocene Deposits Undivided

The Quaternary Holocene Deposits Undivided consist of recent unconsolidated sands, gravels, silts and clays occur in the area beneath marshes, adjacent to streams, and in places form the beach sands along the shore of the Potomac River (McCartan, 1989).

These Holocene deposits, created since the last ice age, occur in the area beneath wetlands, adjacent to or in stream valleys, and forming the shoreline deposits and beach material at Wilson Farm, Douglas Point, and Purse SP. They also appear at the ground's surface at Maryland Point Observatory.

Appendix 13 – Special Status Species

Natural Heritage

Douglas Point

General biological inventories of Douglas Point conducted primarily in the 1970's provided data regarding the presence of rare plant and animal species (Charles County 1980). Surveys of fauna emphasized vertebrates. Considerable effort was devoted to flowering plants, with the least emphasis on grasses, sedges and rushes. The inventories were well documented and scientists verified identifications of specimens. This research is an invaluable resource regarding the distribution of species on the property at that time. Known populations and potential habitat for rare and declining plant and animal species and natural communities are discussed below according to the general habitat type present at Douglas Point.

Large contiguous forest

The American bald eagle is also known to nest within this large block of forest. Three nests are present on this property. Two were active in 2002, with adults incubating in March, but neither produced young that year. Protection of the forest within a one-quarter mile radius of the nests is required, with different levels of protection required in zones within that radius.

A brief study of breeding birds conducted within a portion of this property revealed nesting by several forest interior breeding bird species (FIDS) (Willoughby and Wilmot, 1995). These species require large blocks of contiguous forest in order to breed successfully, and they are declining in large part due to the loss of breeding habitat. Half of the 25 species identified by Maryland DNR as FIDS in the Critical Area were documented on this property by this study. In late May 2002, biologists with the Natural Heritage Program conducted a reconnaissance of the site and recorded 15 species of FIDS. Further survey would be required to determine which species currently breed on site. Five of the 14 FIDS that are identified as the most highly area sensitive species are among those documented on the property by Willoughby and Wilmot (1995). A sixth highly area sensitive species, Worm-eating warbler, was confirmed to be breeding on the parcel by staff of the Natural Heritage Program (June 2003) This species is believed to be the most area sensitive species in Maryland. Based upon the composition, condition and size of the forested habitats assessed in late May, there appears to be suitable habitat for 20 of the 25 FIDS identified as occurring in the Critical Area. Although further study is warranted, the existing information clearly demonstrates that this area is high quality FIDS habitat.

Old hardwood forest

Stands of old growth forests are potential habitat for several rare and declining species. Rare plant species include the small-fruited agrimony, narrow melicgrass and others known to occur elsewhere in old forest stands in southern Maryland, such as glade fern. The intermittent streams flowing through these stands are suitable habitat for several rare species of Odonates (dragonflies and damselflies). Suitable habitat is present for the mud salamander, a species under review for listing as State rare.

Calcareous slopes

Along the wetlands that flow to the Potomac River, steep slopes expose geologic formations that are rich in shell material. The calcareous soils on these slopes support natural communities that are rare in southern Maryland. The State Watch List plant species, *Carex albursina*, is locally abundant on the slopes and is characteristic of this calcareous hardwood community. Other indicator species include Redbud, Leafcup and showy Orchids.

Potomac wetlands

The forested watersheds feeding these wetlands maintain the water quality and hydrology with little evidence of recent artificial disturbance. The wetlands offer suitable habitat for a number of rare plant and animal species. Beaver activity has created areas of open water that offer suitable habitat for American frog's bit. The fresh tidal areas nearest the Potomac may support populations of rare mussels known from the vicinity, rainbow snake and queen snake, and several rare plant species known from the vicinity. Clasping-leaved pondweed has been documented in the adjacent tidal Potomac (plants found on the shoreline most recently in 1977, no subsequent surveys have been conducted). Historically reported from the Potomac at Liverpool Point, Indian Head, and Bryans Point, a rare fish, the bridle Shiner, may persist here. This area will be targeted for survey under an existing contract for fish surveys. In the emergent nontidal marsh and shrub swamp, a rare sedge, was documented in 2002 by staff of the Natural Heritage Program. The least bittern as well as other species of Odonates and plants may inhabit the nontidal and shrub wetlands.

Groundwater seepage wetlands

Brief surveys of the seepage wetlands revealed that these are exceptional communities with the potential to support a number of rare plant species. The invertebrate and vertebrate fauna of the seepage wetlands have not been inventoried, but the area offers suitable habitat for several rare species. Such seeps typically support subterranean invertebrates and they may support the highly State rare (and globally rare) tidewater amphipod. Habitat is also present for rare Odonates. The seepage wetlands are also suitable habitat for the Eastern mud salamander (proposed State Rare).

Xeric, sandy upland fields and forest

Old fields, roadsides, and upland forest on dry, sandy soil support several rare plant and animal species. The rare species of old fields and roadsides, are threatened by natural succession. Encroaching pines appear to have eliminated the open habitat once occupied by leopard's bane. Reported in 1980 (Jensen, *et al*), this rare plant has not been observed during searches conducted over the last five years. The frosted elfin also was reported historically for this area. The larval host plant for this rare butterfly was believed to have been wild indigo. However, large stands of this sun-loving species can no longer persist in the ever-increasing shade of the pines. Recent surveys have failed to relocate this species. Two uncommon insects persist and take advantage of existing small openings in the extensive, mature, dry upland forest.

Historically, fire created large openings in the forests of southern Maryland. Plants that thrived in the full exposure to sunlight colonized these openings. Fire suppression practices have prevented the creation of natural canopy openings, and many species that require full exposure to sun are becoming rare. Virginia pine and other woody plants are encroaching upon the dry, sandy portions of the old hay fields that provide habitat for populations of rare species.

Maryland Point Naval Observatory

No assessment has been conducted to identify the presence of special status species.

Wilson Farm

A comprehensive survey for rare species has not been conducted at the Wilson Farm property. However, the mature forested ravines to the north and south of the entrance drive provide suitable habitat for several rare species currently and historically known to occur in the general vicinity. Future field surveys may reveal the presence of several rare plant species often associated with the calciferous soil of the southern ravine, such as large-seeded forget-me-not), small-flowered baby-blue-eyes, and narrow melicgrass. North of the entrance road, the mature forest seems to be more acidic with wetlands that appear to be more persistently saturated. Both ravines are steeply sloped and have very fragile, erodible soils. The slopes should remain undisturbed. The old fields on the level upland are succeeding to deciduous forest, and a large forested connection should be retained between the ravines.

Purse State Park

While no comprehensive survey for rare species has been conducted at Purse State Park, two currently are known to occur on the property. Both species take advantage of small openings in the mature upland forest. These species should be monitored to determine if trail management practices and natural canopy gaps suffice to maintain the populations. The large marsh at Purse is generally similar to the Potomac marshes described above for the Douglas Point and may harbor some of the same rare species described above.

Wildlife

In addition to the Shortnose Sturgeon (endangered) and the Atlantic Sturgeon (rare) there are other important species of concern.

Table 12. Important commercial and recreational fisheries of the tidal Potomac River in the vicinity of the Douglas Point properties

Common Name	Scientific Name
Striped bass [1/]	*Morone saxatilis*
[1/]	*Morone americana*
Yellow perch	*Perca flavescens*
Channel catfish [1/]	*Ictalurus punctatus*
Largemouth bass [1/]	*Micropterus salmoides*
Blue crab [1/]	*Callinectes sapidus*
American eel	*Anguilla rostrata*
Atlantic menhaden	*Brevoortia tyrannus*
Gizzard shad	*Dorosoma cepedianum*
Alewife and Blueback herring	*Alosa pseudoharengus and aestivalis*
Spot	*Leiostomus xanthurus*
American shad [2/]	*Alosa sapidissima*
Hickory shad [2/]	*Alosa mediocris*

Notes:

1/ Important species are the species which support significant commercial and/or recreational fisheries and are ecologically important.

2/ Current moratorium in place prohibiting the commercial or recreational harvest at any time since 1980. Restoration efforts appear to be working.

CRITICAL AREA – DOUGLAS POINT PROPERTIES

Douglas Point

Approximately 202.7 acres of the Douglas Point property lies within the Chesapeake Bay Critical Area. The Critical Area Buffer on this property would also be expanded beyond 100-foot in some locations to protect steep slopes and wetlands. The Critical Area Regulations also require identification of FIDS and special species habitat and nesting sites of American Bald Eagles which can all be found on this property.

Maryland Point Naval Observatory

The Critical Area regulations would also be applicable on this property, although a detailed assessment has not yet been conducted

Wilson Farm

The Critical Area Buffer on this property would be expanded beyond 100-foot in some locations due to the presence of steep slopes and wetlands. Some access through the buffer exists due to the presence of a former marina site and several structures, some of which have been removed.

Purse State Park

The Critical Area regulations would also be applicable on this property, although such an evaluation has not yet been conducted. It appears, from a cursory assessment, that the Critical Area Buffer would be expanded beyond 100 feet due to the presence of steep slopes, and habitat identification requirements would need to be addressed.

Appendix 14 – Economic Impact Scenarios Appendix

Methodology, Assumptions, Limitations and Sources

Introduction

The economic impact scenarios for Alternatives I-IV are based on collecting local and regional data from several park and other public lands in southern Charles County, telephone interviews with outfitters, using the U.S. Fish and Wildlife Service's 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation for Maryland, and applying the direct expenditures to a regional input-output modeling system (RIMS II). These potential economic impacts are plausible, and subject to the availability of data, methodology used, and assumptions and limitations. Last and most important, and regardless of the alternative and respective impacts, this section provides or illustrates the positive economic effects of outdoor recreation and tourism that may be realized by this project.

Methodology

I. Review Annual Visitation-User Figures from Surrounding Public Lands

Recreational use and visitation data were examined from surrounding public land units such as Doncaster State Forest, Smallwood State Park and Friendship Landing Park, as well existing hunting data for the Douglas Point and Wilson Farm properties.

II. Assign Per Day Trip Direct Expenditures Plus Other Direct Expenditures\Sales

A. Existing annual visitation and recreation user figures from the other surrounding public land units, were used to ascribe projected visitation\user figures for each alternative for the public lands that fall under the Lower Potomac River Coordinated Management Plan: Purse State Park, Maryland Point, Wilson Farm and Douglas Point.

Referred to as direct expenditures, the total annual number of projected recreation user types for each alternative was assigned an average per person per day trip direct expenditure such as purchases of gas and lunch. The U.S. Fish and Wildlife's 2001 Maryland Survey was used as the primary source to determine the average per day trip expenditures for hunters, anglers and general recreational use categories. A per day trip is all of a day, or part of a day from a given location to any of the LPRCMP properties. (For additional information for types of expenditures for each recreational user category, refer to Assumptions and Limitations.) The following are profiles of the user categories:

Table 19 (U.S. Fish and Wildlife, 2001 Maryland Survey), Anglers

	Trip Related Expenses Only Total	Average Per Year-Day Angler Dollars
Food	58,712,000	92 or 51% (26% grocery\25% hospitality)
Lodging	19,766,000 motel)	31 or 17% (15% public\private campgrounds, 2%
Transportation	36,373,000	57 or 32% (gas; auto related services)
(Less Other Costs	130,177,000	206 e.g. bait, ice)

Total	$114,851,000	$180

Average Days Per Angler: 11 Average trip expenditure per day: $16.40 (Less Other Costs)
Average trip expenditure per day: $33.00 with Other Costs

*U.S. Fish and Wildlife data average is based on anglers who have boats and anglers who do not have boats. Equipment purchases are not included in the direct expenditures.

General Recreation - Day Use Only, (from U.S. Fish and Wildlife, 2001 Maryland Survey, Table 33, Wildlife Observation Category, Expenditures in Maryland by U.S. Residents for Wildlife Watching, e.g. hikers, kayakers, wildlife observers, mountain bikers, picnickers)

	Trip Related Expenses Only Total	Average Per Year\Day Dollars
Food	57,731,000	108 or 66% (33% grocery\33% hospitality)
Transportation	30,482,000	57 or 34% (gas-related services)
*(Other Costs	4,949,000	9 e.g. equipment rentals etc.)
Total	$93,162,000	$165

Average Days Per Gen. Recreation User: 17
Average trip expenditure per day without Other Costs: $9.75 per day
Average trip expenditure per day with Other Costs: $10.25 per day

*Small Sample Size-accuracy limited; lodging expenditures from wildlife observation category removed to capture possible expenditure profile of day users only. Equipment purchases are not included in the average daily trip expenditures.

General Recreation – Day and Overnight Use, (from U.S. Fish and Wildlife, 2001 Maryland Survey, From Table 33, Wildlife Observation Category, Expenditures in Maryland by U.S. Residents for Wildlife Watching, e.g. hikers, wildlife observers, mountain bikers, kayakers etc. plus lodging)

	Trip Related Expenses Only Total	Average Per Year\Day Dollars
Food	57,731,000	108 or 46% (23% grocery\23% hospitality)
Lodging	36,531,000*	69 or 30% (27% public\ private campgrounds; 3%
motel)		
Transportation	30,482,000	57 or 24% (gas-related services)
(Less Other Costs	4,949,000	9 e.g. equipment rentals etc.)
Total	$124,744,000	$234

Average Days Per General Recreation User: 17
Average trip expenditure per day without Other Costs: $13.75
Average trip expenditure per day with Other Costs: $14.00

*Equipment purchases not included in the direct expenditures. For lodging, there is a small sample size-accuracy limited.

Table 20 (U.S. Fish and Wildlife, 2001 Maryland Survey), Expenditure in Maryland by U.S. Residents for Hunters (State and nonstate)

	Trip Related Expenses Only Total	Average Per Year\Day Hunter Dollars
Food	13,350,000	92 or 52% (26% grocery, 26% hospitality)
*Lodging	939,000	6 or 3% (3% public campgrounds)
Transportation	11,416,000	79 or 45% (gas-related services)
(Less Other Costs rentals etc.)	6,745,000*	46 e.g. heating, cooking fuel, equipment
Total	$25,705,000	$177

*Equipment purchases and Other Costs are not included in the average daily trip expenditures- small sample size of US Fish and Wildlife Survey for lodging-accuracy limited.

Average Days Per Hunter: 12
Average trip expenditure per day without Other Costs: $14.75
Average trip expenditure per day with Other Costs: $18.00

*Refer to assumptions and limitations for recreational user categories. Equipment purchases for hunters not included in direct expenditures.

B. Selective Harvesting (Alternative III Only)

Is calculated at one timber contract sale to one timber company at $50,000 annually.

C. Construction Costs for Public Facilities

Are calculated on very general, build-out cost scenarios such as the size of a visitor center times the construction cost per square foot and other facilities such as parking lots and restrooms. (See assumptions and limitations.)

D. Outfitters

Includes small businesses such as camping\kayaking-nature tourism outfitters at 20 trips per year x 7 users x $90.00 per user = $12,600.

III. Input Projected Direct Expenditures into RIMS to Obtain Projected Total Economic Outputs or Benefits (Regional Input-Output Modeling System)

The total, annual projected direct expenditures, minus Other Costs for each recreational user, plus the other direct expenditures/sales for the other project categories (timber-selective harvesting, on-site facility construction, and guide services) are applied to the RIMS II system. Devised and managed by the U.S. Department of Commerce, this I-O modeling, RIMS defines a region by one or more counties. For the purposes of these economic impact scenarios, RIMS II calculates total economic outputs and earnings. RIMS II provides industry sectors and input-output multipliers for a defined region such as hotel, camping\recreation, and gas for example, are identified and applied to the different categories of direct expenditures using multipliers.

Assumptions and Limitations

The Region

-The economic region is defined as Charles, Calvert and Prince Georges Counties. It is assumed that the majority of direct retail expenditures made by the recreational user groups would occur in this region for the purchases of services or products and that the majority of the affected workforce is located in this region. Of the 37,000 people who work in Charles County for example, 29,000 are county residents and the balance are from Calvert, St. Mary's, Prince George' and the metro area. It is assumed that most of the industries that supply products to local retail businesses are not located in the defined region (e.g. food for grocery stores). Therefore for the I-O analysis, only the retail profit for certain businesses (gas, auto services and grocery), not the total direct expenditures of the consumer, could be used to determine total economic output and earnings. In some cases then, the total economic output is less than the total direct expenditures.

-The cost-benefits of the alternatives are not analyzed. For example, the model does not consider the negative impacts that may occur if recreational users decided to not spend their money in one part of the state as a consequence of visiting one of the LPRCMP properties in the defined region.

Projected Economic Impacts and Numbers of Recreation Users

-The projected number of users and respective economic impacts are plausible, economic impact scenarios. It is not feasible to determine the actual number of users and categories of users who may use the public land units within the Study Area within any statistical accuracy. The projected economic impacts provide a reasonable range based on existing uses at other public land units that are located in the vicinity of the Study Area.

Time Period for Economic Effects and Time Horizon

-The RIMS model assumes a cumulative, one-year period for economic impact. Therefore, the projected numbers of recreational users and other inputs of direct expenditures are based on a one-year time frame.

-The economic impacts are not projected to occur at any specific time in the future and the economic return is estimated in present day dollars. It is assume that the time frame is long-term or well over five years.

Spending Profiles of Users and Calculations

-Calculations for per day trip expenditures for hunters, the general recreation categories, and anglers were made from using the data from the 2001 U.S. Fish and Wild Survey. The average per day trip costs are a statewide average, which do not take into account local spending profiles of these user groups in the defined region.

-Data is not available to identify where the different recreational users reside or may come from to visit the existing public land units in the Study Area – local residents who use the LPRCMP public lands would spend less per day trip compared to those who live elsewhere in the county, defined region or in the State. In general, the overall, average daily per trip expenditures taken from the 2001 Fish and Wildlife Maryland Survey, utilize the spending profiles of State resident and non-State resident recreational users, and discounts the economic effects of local or residential users who live within a mile or few miles of the destination.

The U.S. Fish and Wildlife's average expenditures for each recreational user category also is subject to variance, because the average expenditures data sometimes aggregates a number of different spending criteria for certain recreational use categories, such as salt and freshwater fishing and anglers who own boats and anglers who do not use boats etc.

-It is assumed that other recreational users within the General Recreation - Day Use Category and General Recreation – Day and Overnight Use Category will have a similar daily spending profile as Wildlife Observers under Table 33 of the 2001 Survey from the U.S. Fish and Wildlife Service. (An area or regional survey information regarding this assumption is not available. One recreational spending profile study conducted by the U.S. Forest Service has determined that in general, the spending profile of a hiker, wildlife observer and some other general recreation user groups do not vary significantly, depending on travel distance and time.) The actual, average daily spending profiles for other recreation groups such as kayakers, hikers etc., therefore may be greater or less per day.

-Equipment Purchases and Other Costs: For the purposes of the I\O analysis, Equipment Purchases and Other Costs under the Fish and Wildlife Survey were not included in the calculations for economic output and earnings. This is because there is insufficient survey data from the 2001 Maryland Survey.

-Transportation: The 2001 Maryland Survey asked how much do users spend on both private (car) and public transportation. The response data from this survey category is aggregated, but the U.S. Fish and Wildlife's 2001 National Survey indicates that the percentage of public transportation costs to total transportation costs is approximately 12%. For these economic scenarios, it is assumed that all transportation costs will be assigned to private transportation (gas-retail) rather than private and public modal subcategories.

-Lodging: The 2001 Maryland Survey asked how much do users spend on camping, motels, lodges etc? The response data from this lodging survey category is aggregated. It is assumed that based on overnight visitation at Smallwood State Park for example, that the majority of the direct expenditures for lodging are assigned to public and private campgrounds.

-The economic impacts do not consider either the positive or negative effects on the numbers and type of recreational users (categories) in a given area due to potential conflicts with those uses.

-It is recognized that individuals may participate in more than one recreational use category such as fishing and hunting on these public lands, however for purposes of developing these economic impact scenarios, the different user categories and cumulative totals of visitation and expenditures are presented separately.

Timber Harvest

-Direct effects are calculated on issuing a contract to a company for one year at an estimated $50,000 per contract.

On-Site Construction

It is assumed that the on-site construction contracts will be issued for one year. Direct economic impacts from construction includes for example, the visitor center, parking lots and restrooms. The economic impacts do not consider the ramifications of whether these projects will actually be approved or not approved due to the future need for reviewing all projects through the permitting process. Therefore, the actual economic effects of on-site construction are contingent on future

site planning and design, cost and feasibility estimates, and compliance with all State and federal laws.

Table 13. Economic Impact Scenarios

Economic Impact Scenarios				
User Category or Project	**Alternative I**	**Alternative II**	**Alternative III**	**Alternative IV**
Recreation Users				
-Anglers	-	2,000 Users Total Direct Expenditures: $66,000 Total Direct Expenditures without Other Costs: $32,800 Total Outputs: $30,865 Earnings: $5,719	5,000 Users Total Direct Expenditures: $165,000 Total Direct Expenditures without Other Costs: $82,000 Total Outputs: $77,067 Earnings: 14,185	2,000 Users Total Direct Expenditures: $66,000 Total Direct Expenditures without Other Costs: $32,800 Total Outputs: $30,865 Earnings: $5,719
-General Recreation – Day Use Only	-	30,000 Users Total Direct Expenditures: $307,500 Total Direct Expenditures without Other Costs: $292,500 Total Outputs: $238,664 Earnings: $48,487	40,000 Users Total Direct Expenditures: $410,000 Total Direct Expenditures without Other Costs: $390,000 Total Outputs: $317,595 Earnings: $64,518	30,000 Users Total Direct Expenditures: $307,500 Total Direct Expenditures without Other Costs: $ 292,500 Total Outputs: $317,595 Earnings: $64,518
-General Recreation – Day and Overnight Use	-	1,000 Users Total Direct Expenditures: $14,300 Total Direct Expenditures without Other Costs: $13,750 Total Outputs: $14,954	5,000 Users Total Direct Expenditures: $71,500 Total Direct Expenditures without Other Costs: $68,750 Total Outputs: $72,282 Earnings: $13,040	1,000 Users Total Direct Expenditures: $14,300 Total Direct Expenditures without Other Costs: $13,750 Total Output: $14,954
-Hunters	500 Users Total Direct Expenditures: $9,300 Total Direct Expenditures without Other Costs: $7,375 Total Output: $5,698 Earnings: $175	Earnings: $2,634 600 Users Total Direct Expenditures: $11,160 Total Direct Expenditures without Other Costs: $8,850 Total Output: $6,831 Earnings: 1,363	Same as Alternative II	Earnings: $2,634 Same as Alternative II
Selective Harvesting	-	-	Total Direct Expenditures\Sales: $50,000 Total Output: $72,500 Earnings: $8,500	–
On-Site Facility Construction	-	$824,500 (visitor center, water access\lot, primitive camping, restrooms) plus A\E 153,400 = Total Direct Expenditures: $977,900 Total Output: $1,672,000 Earnings: $264,000	$1,865,000 (visitor center, water access, 15 site camp loop, restrooms) plus A\E = Total Direct Expenditures: $2,205,000 Total Output: $3,770,000 Earnings: $595,000	$824,500 (visitor center, water access, camping and restrooms) plus A/E = Total Direct Expenditures: $977,900 Total Output: $1,672,000 Earnings: $264,000
Outfitters-Guide Services	-	140 Users Total Direct Expenditures: $12,600	140 Users Total Direct Expenditures: $ 12,600 Total Output: $19,150 Earnings: $3,400	140 Users Total Direct Expenditures: $ 12,600 Total Output: $19,150 Earnings: $3,400

		Total Output: $19,150 Earnings: $3,400		
POTENTIAL TOTAL DIRECT EXPENDITURES WITH OTHER COSTS*1	$9,300	$1,389,460	$2,925,260	$1,389,460
POTENTIAL TOTAL OUTPUT (MINUS OTHER COSTS)*2	$5,698	$1,982,464	$4,335,425	$1,982,464
POTENTIAL EARNING(MINUS OTHER COSTS)	$175	$325,603	$700,006	$325,603

*1 – Total Direct Expenditures includes: projected, total annual recreation user expenditures, one selective harvest per year, on-site facilities construction and guide services.
*2 – Outputs and earnings are calculated based on direct expenditures minus Other Costs as defined in the U.S. Fish and Wildlife's Maryland Survey

Interviews with Atlantic Kayak and Amphibious Expeditions

1) Would you use the LPRCMP public lands in the study area for a day trip?
Atlantic (Judy Lathrop, interview by M. Spencer on 6\13\03) –yes, have been making six day trips to Mallows Bay per year from Occoquan, Virginia.
Amphibious (G. Schaumberg, interview by M. Spencer 6\12\03) – yes, depending on facilities and conditions.

2) How many day trips do you think we would or could conduct on an annual basis to this area?
Atlantic –see above- six day trips.
Amphibious – maximum of two day and\or overnight trips to one destination per year is what we' ve been doing.

3) How many users per trip and cost per trip per day?
Atlantic – average 6-15 day users @ 90.00 ea.-most of our business is day use
Amphibious – average 6 day users @ $85 ea.

4) Would you use the LPRCMP public lands in the study area for an overnight trip if facilities were available and how many trips per year? Fee per user trip?
Atlantic- possibly; $100 per day for overnight trips
Amphibious-yes if facilities were available-maximum of two-day and\or overnight trips to one destination per year; $100 per day for overnight trips with average of 7 users.

Sample Calculations: 6 day trips per year x 7 people x $90 x 2 contracts =$7,560

State Forest and Park Service, Public Lands Visitation (Figures)

	FY02	FY01	FY00
Chapel Point	7,887	7,160	10,464*
Purse	6,727	3,585	5,022*
Smallwood	61,514	65,041	77,634

*Estimated

Smallwood State Park, Visitation and Income

Projected Income Smallwood for Year: May\July: average camping – 2,507\3,286.00 per month x 6 month season= 17,400 yr. cabins – 3,043\2,144 per month x 6 month season= 15,560 yr.

Approximate visitation at Smallwood for Year: 3,932 campers, 976 group campers, 25% of campers may be county residents; 12,000 boat launches a year-estimate-which excludes tournament boaters.

Hunting Permits2002-2003: Douglas Pt. - 451 hunters Wilson Farm: 70 parties (x2 per party) of waterfowl hunters and 51 hunters land based.

Doncaster State Forest: total annual visitation –1,500 Equestrian Users – 1,000 Hunters – 350 Mountain Bikers – 50 (75% are local)

DNR Forest Service Estimate, Southern Regional Office: East Tract. Douglas Point, Selective Harvest @ $50,000 sale per year.

Construction Estimates, Example Only and Subject to Site Design and Cost Estimates

Visitor Center-$233 sq. ft. (does not include parking or site preparation); $5.00 square foot for parking lots and roads; $200,000 boat ramp and\or boat access improvements (does not include road improvements); comfort stations w\water - $200,000; Clivus\composting toilet - $25,000; 15 site camp loop with utilities - $150,000; 15% A\E costs for facilities other than buildings and 20% for all buildings.